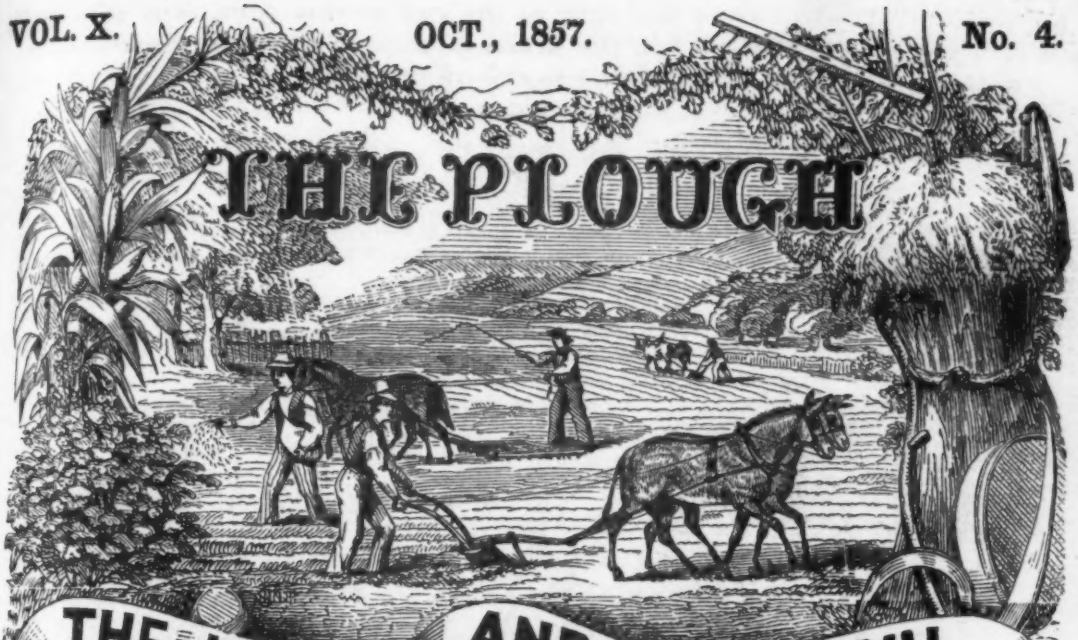
VOL. X. OCT., 1857. No. 4.



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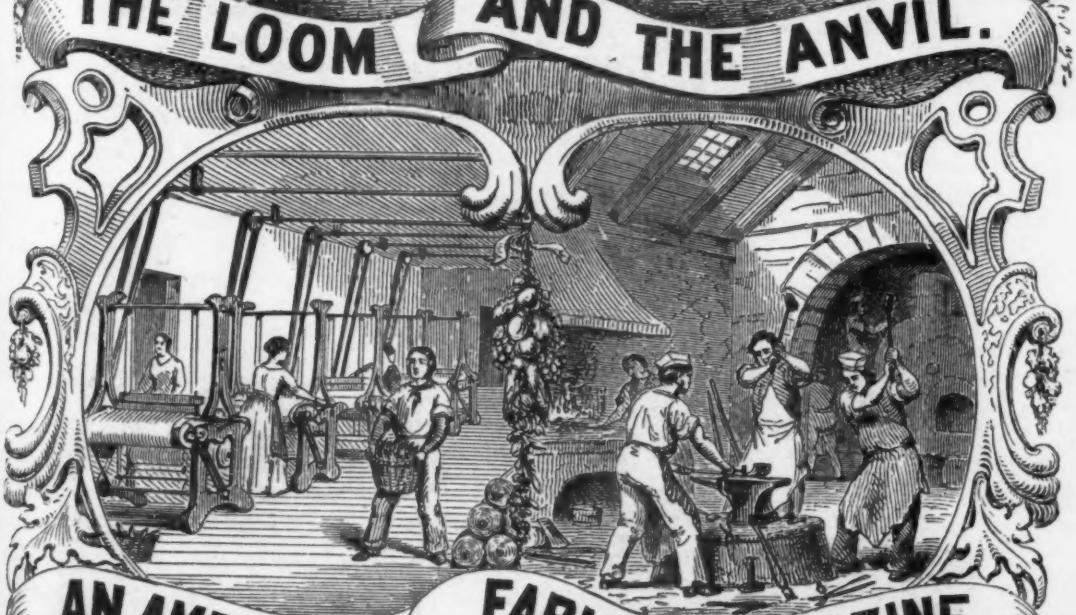


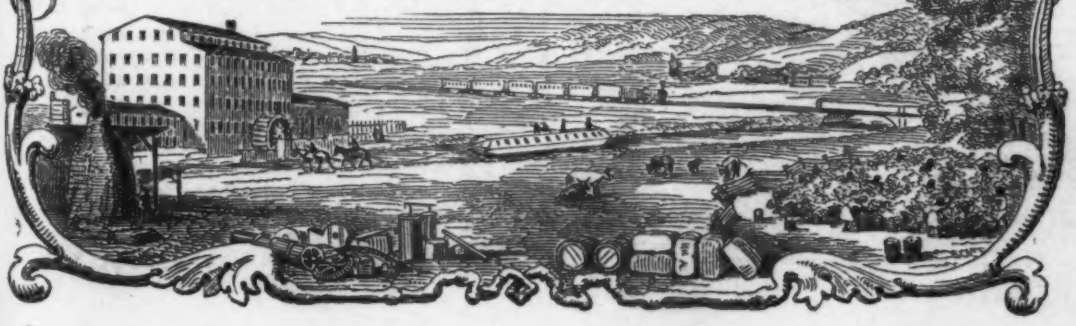
THE LOOM AND THE ANVIL.

AN AMERICAN FARMERS' MAGAZINE

AND MECHANICS' GUIDE.

NEW-YORK: No. 7 BEEKMAN STREET.

J. A. NASH & M. P. PARISH, EDITORS & PUBLISHERS.



☞ **Subscribers who have not paid to the end of this year, will please be mindful of us. They do not feel the pressure, now so severe in large cities, ; Will all in arrears, remit something, without delay.**

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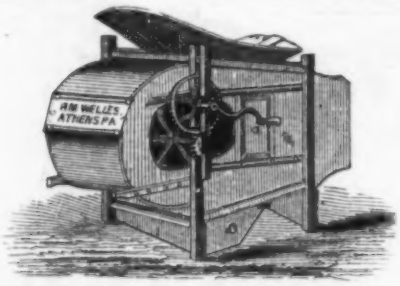

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OHIO MECHANICS' INSTITUTE,
CINCINNATI, OHIO.

Fifteenth Exhibition of Art and Manufacture.

WE desire to call the attention of Manufacturers, Mechanics, Artists, Inventors, and others, to the above Exhibition, which will be opened in Cincinnati on Thursday, September 10th, and continued daily until the 30th, in a commodious fire-proof building which has been erected for the purpose.

It is desirable that those intending to exhibit articles should give early notice to Mr. J. B. Heich, the Clerk of the Institute, who will promptly give any information that may be desired.

By order of the Committee,
Aug. 3t. C. F. WILSTACH, CHAIRMAN.

NEW-YORK CENTRAL RAILROAD.

On and after Monday, May 25th, Trains will run as follows:

GOING WEST.

Leave Albany.		Arr. Buff.	Arr. Susp. Br'ge.
*6.30 A.M.,	(Exp	8.00 P.M.	.... 8.50 P.M.
7.30 "	(Exp	7.50 "	.... 8.30 "
9.15 "	(Mail	"	....
11.30 "	(Exp	9.00 "	.... 9.40 "
3.30 P.M.,	(Accom	to Utica only.	
6.00 "	(Exp	6.50 A.M.	.... 6.50 A.M.
11.30 "	(Exp	10.15 "	.... 11.00 "

*Awaits at Rochester the arrival of 7.30 A.M. Train.

COMING EAST.

Leave Buffalo.		Leave Susp. Br'ge.	Arr. Albany.
5.40 A.M.,	(Exp	5.45 A.M.	.... 4.20 P.M.
8.30 "	(Exp	7.30 "	.... 8.00 "
6.00 P.M.,	(Exp	6.00 P.M.	.... 4.15 A.M.
11.15 "	(Exp	11.15 "	.... 8.45 "
		Accom. from Utica	.... 10.30 "

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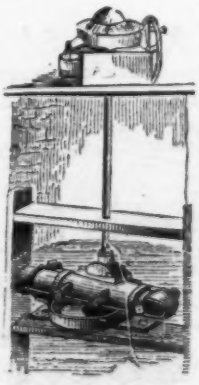

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AMERICAN FARMERS' MAGAZINE.

VOL. X. OCTOBER, 1857. No. 4.

Our Agriculture.

Is it prosperous? If we look at the condition of the farmers, the gardeners, the orchardists, all who are drawing from mother earth for the support of her children, we shall say it is. A larger proportion of these, than at any former period in our history, are enjoying an enviable fame, as the result of their *head* and hand labors in the soil. More, perhaps, than ever before, are becoming decidedly rich. Many are in a condition in which they have reason to be contented and happy. The workers in the soil, and all who are putting their intelligence and energy at work for the supply of necessary food and innocent luxuries, are better paid.

But are agricultural and horticultural products increasing, as a whole, relatively with the population? The contrary is true. From 1840 to 1850, the falling off in the production of wheat was one seventh, in potatoes one third, and in horned cattle one tenth. That there may have been an increase in other products, is possible. It is true also that the aggregate products of the soil have steadily increased for these many years; but there can be no doubt that relatively with the population there was, from 1840 to 1850, considerable decrease. This appears from a comparison of the U. S. census at these two points; and we might allow largely for inaccuracy, and still find a decrease, as compared with the population.

Meantime our exportation of agricultural produce doubled in these ten years, and has nearly doubled again since 1850. Multitudes have rushed from the farm to the building of railroads, from cultivating the soil to speculating in land, from homes in the East, where, on a harder soil, they were producing a little more than they consumed, to homes

in the more fertile West, where, of course, they produce for a year or two at first less than they consume. Other nations, the while, are willing to take more of our produce; and so we present at this moment the spectacle of a nation producing relatively with the number of inhabitants less and less, and exporting more and more.

Such a state of things ought to produce good times for the cultivators; especially when we consider that increasing wealth enables many among us to enjoy the luxuries of the garden, orchard and vineyard to an extend hitherto unknown, and at prices which our fathers never dreamed of. It has produced good times, and hence the truth of the assertion with which we started that the wise, foreseeing head and hand cultivators are doing better than ever before. But it may not be unwise to pause a little and inquire whither we are tending. If the mechanic, by the reward of the shop, can not buy meats and vegetables at present prices, may he not turn to the soil for a living, and so the farmer have him for a competitor instead of a customer? If the manufacturer, by reason of the high price of the raw material, can not keep his mills going, what will become of that five, six, eight, ten hundred of the farmer's customers that were gathered round him? Will they be driven to cultivate the earth, and so the farmer lose them as customers, and the country lose the benefit of their superior skill as manufacturers, and take instead their unskillfulness in the soil?

As a nation, we are drifting somewhere. May it not be well to look out for breakers? For our own part, though in a country of such immeasurable resources, and with the energy we possess to develop them, we would not be prophets of evil, yet for our lives we can not see all fair weather and high prices ahead for the farmer, unless the shop and the factory, as well as the plough and the reaper, are kept going. Right glad are we if foreign nations will continue to take our wheat and corn. All we shall export will be a little help to American agriculture—better than nothing. But really, so far as we can see, and we do not pretend that it is very far, we would rather, for the sake of our own farmers, import a hundred mouths than export a million bushels of wheat; and would sooner employ ten sets of muscles in our own shops, to be fed by American farmers, and to make what Americans need or will have, than to pay for the work of a thousand sets of muscles abroad, to be sustained mainly, after all our exports, by the foreign farmer.

We would rather use our own iron ore, since God has given us more than all the world needs, than pay for other people's; rather use our own coal to smelt it with, since God has given us more than enough; rather work the iron, the cotton, the wool, and everything

else into the forms we need, and be truly independent, than pay anybody else for doing these things; and that not less for the sake of American farmers than of all other Americans, whether by birth or by choice.—Ed.

Bones.

The value of bone-dust as a manure has been so thoroughly established in other places, and in fact affords such permanent fertility to the soil, that it is matter of surprise that so little of it has been used in this region of country. We can only account for the neglects of this and other means of improvement, by the reliance which farmers have got into the habit of placing on Peruvian guano. This enters into the production of almost every crop; and even at present prices it continues to be purchased with avidity; though it is thought by many judicious farmers that if an accurate debit and credit account was kept with it, the profit would not be found in the majority of cases to counterbalance the expense.

The waste of fertilizing material in the form of bones, in such a place as Petersburg, is incalculable. And we think a company of enterprising gentlemen could not make a better investment, on a moderate scale, than by the establishment of a mill for the purpose of grinding the raw bones. That they could be collected in large quantities can not well admit of a doubt. Whenever it is ascertained that there is a certain market for them, they will be carefully preserved by most housekeepers or their servants, just as ashes have long been; and they might both be collected at stated times in the same manner. Depots for their reception might also be established in the neighboring towns, such as Lynchburg, Farmville, Weldon, and even in the city of Richmond. A little systematic effort would soon bring all such arrangements to bear.

In view of some such enterprise, and in order to promote it to the best of our ability, we submit some remarks on the peculiar value of bones as a fertilizer. Their composition is, when dry, of earthy matter about 66 lbs. in 100; and of organic matter 34 lbs., which is the amount carried off by burning. The earthy matter consists of phosphate of lime, or lime in combination with phosphoric acid—substances both of them, forming valuable applications to every soil. The organic part is called *gelatine* or glue, which is extremely rich in nitrogen, and therefore an excellent manure.

Bones are thus seen to unite some of the most desirable organic and inorganic manures. For speedy action on the growing crop, they should be reduced to a fine state, which can only be done by very powerful machinery. Eight or ten bushels per acre are thought to be a liberal application; but the effect will be more satisfactory when combined with half the usual quantity of barnyard or stable manure. What the effect would be on tobacco, we are unable to state from actual experiment; but we have used it on cabbages and turnips with the best results. For plants of this class, indeed, it may be regarded as a specific manure; and its action on tobacco would no doubt be equally conspicuous.

The most popular form in which bones are now used as manure, is

in a state of solution with sulphuric acid. This preparation is known under the name of *superphosphate of lime*, and if made according to chemical principles, there can be no doubt of its value. But since it has become an extensive article of manufacture and commerce, it can not always be relied on as genuine. Every farmer of ordinary intelligence, however, can make it for his own purposes. To every 100 weight of bones, about 50 or 60 of acid are taken; or if the powdered bone is used, but little more than half the quantity of acid will be necessary. The acid should be mixed with two or three times its bulk of water, and poured on the bones—one-third at a time—and permitted to remain for 24 hours, the mass being occasionally stirred. Another third may be poured on the second day, and the remainder the third day. A tub is a convenient vessel in which to prepare the mixture. Two bushels of bones, treated in this manner, will be sufficient for an acre of ground—the expense of which will be something like the following: bones $1; 50 lbs. acid, which, at the cost per carboy, would not exceed 3 cents per pound—say $1 50. At an expense, therefore, of $2 50, a sufficient quantity of superphosphate of lime may be prepared for one acre of land.

It may be thought that the acid will prove destructive to the oil and gelatine contained in the bones, but it is not at all injurious to them. The whole earthy or inorganic portion may be dissolved out by the acid, while the cartilage or gelatine will remain—retaining the size and form of the bone. Sulphuric acid may be also mixed with guano with manifest advantage; not only with the phosphatic guanos, but with the Peruvian. It will act on the phosphates and prepare them for the immediate use of plants, without diminishing the energy of the organic constituents.

The above, originating with the *Southern Farmer*, but taken by us from the *Richmond Whig*, is all true, and is of so much real, practical importance that we are willing to do our part to keep it going, and we hope other editors, who can find or write nothing better, as we are sure not many can, will do the same; and we here venture the opinion, that a ton of bones, finely crushed, as above recommended, with the gelatine and oil, applied to any and all crops, either with or without the sulphuric acid, at the rate of 250 lbs. to the acre with half the usual quantity of barn manure, will give a greater return than any ton of guano ever imported, except the best Peruvian. If applied with the acid, the return will be more speedy. If without, the return will be more gradual, but probably about as great in the end, and less profitable only because farming, like other business, thrives best with quick returns. One other thing we wish to say here, and we wish both scientific men and practical farmers would consider it well: *The very same arguments, which are being used to prove that phosphatic guano is better than the real ammoniacal Peruvian, would prove that bones, crushed and used as recommended by the Southern Farmer, are better than Peruvian guano.*—Ed.

From Liebig.

"In all cases of failure in the culture of a plant, the immediate cause must be sought in the soil and not in the want of the atmospheric supplies."

"As the smallest particles of nutriment do not change their place in the ground while the soil retains them, it must be seen what an extraordinary influence upon the fruitfulness of the land, or the amount of the harvest, is exercised by working the soil mechanically, by carefully pulverizing, and thoroughly mixing it up for each successive crop."—*Liebig.*

If we understand the first of the above, the idea is that if you feed your plant rightly at the root, the mechanical and chemical conditions of the soil being such as the plant requires, this causes a greater expansion of leaves, and thereby enables it to draw from the air so as in all cases to attain a reasonable growth and productiveness. In this sense it is undoubtedly true. But if he should go farther and deny that the chemical condition of the air has an influence on the growth of plants, it would be untrue. Of two hills of corn, equally well cared for at the roots, if one is in a very pure atmosphere, and the other in an atmosphere surcharged with the breath and exhalations of animals, affording carbonic acid and ammonia, the latter will grow the more luxuriantly. We have no doubt that the action between the roots and the leaves is reciprocal—if the feeding of the roots causes the leaves to spread and draw more strongly upon the air; so the feeding of the leaves causes the roots to spread and draw more strongly upon the soil.

The second remark, quoted above from Liebig, is of a more practical nature. We can not believe, with him, that the particles of nutriment do no change their place in the ground. We believe on the other hand, that through the influence of suns, rains, frosts, and various chemical affinities they are always in motion, always tending to an equal diffusion through the whole soil. But Liebig's inference is important, whether from true or false premises. Unquestionably the "amount of the harvest" depends largely upon "working the soil mechanically, carefully pulverizing and thoroughly mixing it up for each successive crop."—Ed.

Something about Potatoes.

An item is going the rounds, to the effect that potato tubers are not exhausting to the soil, that the tops are very exhausting, and should therefore be spread as evenly as may be and left to decay in the field.

Allowing something for exaggeration, the premises seem to be true, and the conclusion of some practical importance. The facts are, that the tuber draws largely, and the tops still more largely, upon the potash of the soil. Consequently the growth of both must be exhausting, but that of the top most so, on soils not over stocked with potash; but if the tops are left to decay on the soil, this ingredient is restored, and the whole result is not more exhausting (we believe this from experience as well as from reasoning) than the generality of crops.

While on this subject we wish to say, or rather to repeat, for we have said it before and mean to keep it before our readers, that in preparing for a crop of potatoes, unless the soil is known to abound in potash, this should be a prominent ingredient in the manure. The potato being a potash plant, not that it carries off a very large amount of that substance, but using a great deal of it during its growth, requires that the soil should be well supplied with it.

We lay claim to no specific for the potato disease, but we have long suspected that the exhaustion of the potash in old fields may have had something to do with it; and if the plant is ever to regain a complete ascendancy above the power of the disease, we are strongly inclined to the belief that it will be by supplying it plentifully through successive growths with this its favorite food.—Ed.

The Cranberry.

This fruit affords a delightful acid, and is most genial to the human constitution. A plentiful use of it by all classes, the poor as well as the rich, would improve the general health, and prolong life. But for years it has been so high in price, and so scarce, that even the rich have not been able to enjoy it. At the present time, we doubt whether it can be had for love or money.

Experience, we believe, has now decided that it can be grown on upland, and of a superior quality. But our own experience in keeping down the grasses among strawberries and other perennial plants, does not allow us to believe that it can be so grown remuneratively; and besides, we want our uplands for other purposes; and it seems to us that it would be bad policy to devote them to a crop which all, we believe, will agree, does quite as well on lands which produce nothing else of value.

With most crops, it is almost as fatal to have stagnant water a little under as on the surface. But this is just what the cranberry delights in. Now there are thousands of acres whose surface is but a little elevated above standing water, so situated that for the want of an outfall they can not be drained. The time will come when, by the

lowering of the bed of a river, or by elevating the drainage water by means of machinery driven by water, steam or wind, these lands will be drained and become the best lands in the world. But that time is not yet. It will not be for long to come. We have no doubt that there will be an immense demand for cranberries. Their value is just beginning to be known. At ten, fifteen, and twenty dollars a barrel, few can use them. With fairly remunerative prices, everybody could use them plentifully, and they are far more conducive to health than the rich preserves which they would displace.

The cranberry requires a water meadow, with a few inches, from five to seven, of sand on its surface. Those who have meadows so situated that they can not well be drained, and which, by a juxtaposition of sand, can easily be covered with it to the requisite depth, would do well to establish cranberry plantations, small if they judge that prudent at first, to be enlarged as their success and the prospect of the demand shall justify. The spring is the best time to set them; but fall and winter afford a better time for preparing the land.

We propose, in an early number, to give a chapter on the best mode of establishing plantations of this fruit, and on its cultivation.—Ed.

FOR THE AMERICAN FARMERS' MAGAZINE.

Caution to Farmers.

It can not be too soon or universally known to agriculturists, that a new and fearful evil assails their interests in the wholesale destruction of frogs which threaten to exterminate, root and branch, the whole race of these ever active and efficient destroyers of noxious insects. Not only frog-eating Frenchmen hailing from all parts of the old world, but (mirabile ditu) frog-eating Americans, veritable Yankees, who having contracted this most unholy frog-eating mania, may be seen with their frog nets, hooks, and spears ransacking fields, meadows, marshes, ponds, and brooks, doing more mischief to farmers than all the owls, hawks, crows, foxes and wolves in New-England. The frogs, as well as the toads and birds which dame Nature has kindly provided to occupy our grounds, are worth their weight in gold, and indispensable to their safe-keeping and productiveness in counterbalancing and checking the increase of noxious insects which generate there by thousands and threaten the destruction of vegetation. They are indeed our chief defense in this respect, and he who wantonly hunts or harms them in these their own legitimate spheres of usefulness and self-enjoyment, is guilty of a wrong and outrage not only against nature but our own best agricultural interests. An intelligent gentleman from one of the interior towns in New-Hampshire, says

hosts of caterers are overrunning our fields who, by paying farmers a few shillings, are allowed to take away all the frogs on their grounds, and even to command the services of farmers and farmer's boys in doing it, so that bushels and bushels are taken daily by the cars to feed the idle frog-eating gluttons of the cities. Among the strangest and most unaccountable phenomena of the present time, is the ignorance or indifference of farmers in studying and following up nature's plan for guarding against the increase and ravages of insects. There is now and then one wide awake on this subject, and their clean productive trees and grounds, and their abundant harvests fully testify to the fact. But how many, either through ignorance or blindness or greediness of temporary gain, act on the pound-foolish and penny-wise policy of killing the goose which laid the golden egg, and would for fifty cents allow sportsmen to shoot all the birds on their farms, and justify their folly by appealing to authority, as baseless and superficial as that of the scribbler who wrote a few weeks since in unqualified condemnation, even of the ever and everywhere consecrated robin, because forsooth it has occasionally, for a short week or two in the whole year, and in midsummer when its natural food, insects, are scarce, taken the liberty to wet its whistle and tune its throat to melody with a currant, a cherry, or a strawberry or two from his (the scribbler's) own little solitary bush, tree or vine. For this he fulminates, he explodes his one idea, and blazes lustily away to create a prejudice and a bad name for the total annihilation of a bird which, from early spring to latest autumn, is cheering us with his song, and ever busy and active in clearing our expansive corn, grain, grass and vegetable fields and gardens, and our boundless orchards and woodlands, of the hosts of vermin which would otherwise ruin their productiveness. Scout such contracted views and one ideaisms. The story of the yellow-bird which was killed and opened and found to be full of the noxious insects on which it feeds, has been the rounds, and is a fair sample and illustration of the subject. Similar results by similar investigations are found true of frogs, toads, and several varieties of field and garden snakes, which also benefit vegetation by the carbonic acid gas they are constantly exhaling; and farmers may be assured that if they suffer their grounds to be divested of the good services of these wisely-provided guardians of nature, whether through prejudice or a desire to gratify the capricious appetite of epicures and gourmands, they will soon have abundant cause to regret their imprudence and want of foresight.

E. Sanborn.

Andover, August, 1857.

Western Emigration.

THE following very sensible article, from the Yorkville (S. C.) *Enquirer*, applies equally well to emigration from the Northern and Middle States, as from the Southern.

From a glance at our advertisements it will be seen that there is now a large quantity of land for sale in our district. The mania for moving West has never been greater, although the crops promise to be abundant and provisions plenty. To those desirous of developing the resources of the State, this tide of emigration presents a picture altogether disagreeable. Its direct effect on the State will be, to retard the progress of that agricultural reform, which has been in agitation for the last few years. And it is questionable whether those emigrating will better much their condition. There are difficulties to be met, privations to be suffered, and risks to be run which should make men hesitate, ere they break up the associations of life, and go forth to tabernacle among strangers in a strange land. A mistaken view of the nature of wealth and the true objects of life, we imagine, influences many of those who are leaving forever the land of their nativity. A man who has the comforts and conveniences of life around him here, is much richer than any one can possibly be in the far West, no matter what may be his resources. For money is not wealth, any farther than it is the synonyme of all that is desirable or all that renders us happy. And there are many pleasures here which money can not purchase in the West. Years must elapse before social life can be fully developed, before convenient churches can be built, good teachers and good academies be procured, and all the appliances to make men moral, happy and intelligent, be put in operation.

Nor should it be imagined that fortunes are to be made in the West by any new and simple process. Industry and economy are the only honest paths to affluence. Circumstances may be favorable, but these qualities are indispensible requisities. The same negligence or indolence which has prevented them from securing an independence here, must wherever they go operate against them.

But let it not be inferred that we would check altogether the spirit of emigration. There are many in the older States who have no strong ties to bind them, no comforts to leave behind, no associations to make them cling to any particular spot of earth and repeat, with the fervor of Scott, "This is my own—my native land." To such the West proffers strong inducements. The cheapness of the land will enable them to secure homesteads with very limited means. To this class we would say, go. With industry and economy you can soon gain "the glorious privilege of being independent," for which the hapless bard of Scotia vainly sighed.

On our first page will be found an instructive article on this subject.

The following is from the article referred to in the last sentence.–ED.

If those who immigrate to the newer States and territories would but apply the same energy they are obliged to use there to the renovation of the ill farmed lands of the Atlantic border, and would con-

sent to wear homespun, to live in log houses, and, eschewing all luxurious appliances, be satisfied to live upon the products of the homestead, they could acquire a competence with more ease in settled neighborhoods than on the fertile and sparsely populated prairies of the great West.

Now we are not inclined to be critical upon the foregoing. We believe it to be true, that if young men will put forth as much energy and endure as many privations in the East as in the West, they will thrive as well, all along the coast from Maine to Georgia. But then it is a very different thing to endure privations in the East and the West. We would rather live in a log cabin, where our neighbors would look *out* of log cabins at us, than where they would look *down* upon us from tall houses; and if our sons must live in log cabins, much as we would like to have them near, where they could come home and see us of a *Thanksgiving* day, if no more, we say, let it be in Nebraska rather than in this State. Whether it is better to be first in a hamlet than second in Rome, we will not undertake to decide. But really, if we were a young man, with strong hands, we should feel quite inclined to go where we could live in about as good a house as the rest of the world thereabouts. In this we believe the editor of the *Courier* very nearly agrees with us. Moneyed men who love ease and social advancement will certainly do well to remain East, but young men, whose capital is in their energy and endurance, will benefit the country and themselves by "pushing out West."

FOR THE AMERICAN FARMERS' MAGAZINE.

Buncombe County.

DEAR SIR:—I have for some time past purposed writing to you, setting plainly before you the advantages this place possesses, I might say, before any other part of the States. It is allowed that Virginia and North Carolina possess the best climate in the States, and for healthiness I believe Buncombe County exceeds all others. It has long been famous for the speeches of its representatives in Congress, nor has it fallen off in that respect. As it has been a by-word on that account, so it should be celebrated for the fruitfulness of its soil, the healthiness of its climate, the value of its waters, possessing chalybeate, sulphur, and warm springs. I am not going to inflict an account on you of all their virtues; but I will bring under your notice a few plain and established facts, such as can not be gainsayed or denied. But as to its fertility, N. W. Woodfire, Esq., one of our most enterprising gentlemen, three years ago raised 149 bushels of shelled corn from an acre of ground. Last year 18 acres of his crop produced 1800 bushels. He also last year, from a field of six acres, had 180 bushels

of wheat, cut the 22d June, after which he planted in corn and raised a good crop, and but for the unprecedented early frost of the 23d Sept. would have had 50 bushels of corn to the acre, and off the same ground in the intervals had a moderate crop of turnips. The same six acres he has in corn this year, and I feel satisfied it will at least average 120 bushels to the acre. A Mr. Ripley raised a crop of excellent wheat last year, averaging 35 bushels an acre. From the same ground he had upwards of 400 bushels of excellent turnips to the acre. I could give you many more instances of good heavy crops of corn, wheat, rye, barley, oats, hay, potatoes, carrots, etc. I will only state that Mr. James W. Patten had 1100 bushels per acre, measured, of Irish potatoes. No country is better suited for growing fruits, I might say of all kinds; its apples and pears can not be surpassed in any country in the world, and its native grapes, the Catawba, for instance, has got a wide-world celebrity, and not without reason. I have cause to believe that there are a very great number of what may be called wild grapes, natives, fully as good and perhaps of better qualities. However, that is a matter likely soon to be tested, as that enterprising gentleman, N. Leveysworth, of Cincinnati, has taken the matter in hand. One advantage its climate and soil possesses, that I never saw the Catawba grape here, no matter what season, either mildew or rot, and where in Ohio this year such is the case to a great extent, we are free from any thing of the kind.

Dr. Samuel Dickson, of Charleston, S. C., has often said the climate of Buncombe is superior to any other part of the world for consumptive or delicate persons; if they can not live here they need not go elsewhere for health. I don't want it too generally known lest all the sick might flock here, and some might die and give the place a bad name; but you may, if you please, let any of your friends know it. I believe for good farming there is no country better fitted to repay the steady, enterprising farmer. For a wine country and the cultivation of the grape, it can not be surpassed—the greatness of the neighborhood is proverbial—and if we had a railway so that its advantages might have a chance to become known, few places could compete with Buncombe. But the narrow-minded jealousy of the Eastern members to the State Senate and House of Representatives has hitherto withheld from us such a privilege—so narrow-minded and selfish as to be a disgrace to any State or people.

The Chinese sugar cane promises exceedingly well. Seven or eight gentlemen here have sown largely, and an intelligent West India sugar planter of great experience informed me yesterday he feels no doubt of being able to make sugar of the very best quality from it. I have told you a few, very few, of the many advantages of Buncombe. If I

stated half, this communication would be so long you would reject it. Should any of your friends require any further information, I will be happy to give or procure it, and they may rest assured they shall hear nothing but the truth. In sheep and cattle raising, the land and climate is most favorable; and the osage orange grows so well that the expense of fencing is decreased four-fifths—a matter of no small consideration to the farmer. Believe me, yours respectfully,

ASHEVILLE, August 26, 1857. W. M.

Remarks.—It must be confessed that our correspondent goes it strong for Buncombe. Eleven hundred bushels of potatoes is the largest yield by 100 bushels we have ever heard of. A farmer in the Green Mountain State was once reported to have grown a thousand bushels. He was said to have raised them in this way:—Ploughed the ground, harrowed it thoroughly, sowed the seed-potatoes broadcast plentifully, and covered with a composition of chip-dung, leaf-mould and yard-manure some five or six inches deep, and then let them pretty much alone until harvest-time. Whether the Vermonter ever grew 1000 bushels to the acre, we do not know. If he did, he must have grown $1\frac{5}{10}\frac{1}{8}\frac{1}{8}$ pints, or just about a pint and a half to the square foot. Will some of the boys see if we are right? In the olden times, when old fashion whigs and potatoes were both rampant in that State, it might be done, but we do not believe it can be beat in these times except in Buncombe county, N. C.

Speculations on the Origin of Plants.

BY DAVID RICE, M.D.

I. *Natural Laws.*—There are certain fixed facts known to philosophers existing perpetually the same, always operating in the same way, pertaining to things in nature that are styled "Natural Laws." Attraction of cohesion is one;—it brings together the particles of bodies and holds them in union. Gravitation is another;—attracting all matter to the center of the earth. By the power of gravitation, bodies fall to the earth, or arise to a stratum of air of their own density. It is a law in chemical attraction, that elementary principles unite in certain definite proportions. Oxygen and hydrogen unite thus and form water. Oxygen unites with a mineral, forming an oxide or an acid. It is a law that particles of matter, united in a certain way, form an opaque body. Again, united in a more perfect manner, the body is crystalline or transparent, or becomes resolved into geometrical, perfect forms, such as a cube, or a hexagon, or an octagon. These we call natural laws.

II. *The laws of nature are the fixed will of God.*—All the fixed

laws of nature, as well as the constant exhibition of chemical affinities, both in the animal, vegetable, and mineral worlds, are nothing more nor less than the operation of the will and wisdom of God. These phenomena we are too apt to regard as merely scientific facts, natural and matters of chance in themselves. But however we regard them they are no less the operations of the Divine mind, and in all their methodical complicity and beauty, in their immensity of scope and constancy of operation, they reveal only the original, the immediate, the eternal will of God! He spoke, He speaks; it was, and it is done.

III. *Operation of natural laws in the formation of the earth.*—There is no doubt but that the Creator worked methodically, bringing these same natural laws into operation in the creation and formation of the globe on which we live. In the immensity of space, two or more loving affinities joined hands, and from the great gaseous realms of chaos, manufactured a particle of matter, and yet another. Attraction of cohesion united them together. The nucleus of the earth was formed, and the great operation went on, particle uniting with particle, until, rocked in the cradle of infinite space, the infant globe became a full grown world, created and governed by the methodical workings of divine wisdom, which we call Natural Laws. Without saying a word in regard to the phenomena and changes that must have occurred during the countless years anterior to the time when the earth was prepared to sustain vegetable life, the time did come at last. And I believe that the Creator observed the same beautiful method, working by natural laws, in the creation of vegetable life as in the formation and development of the earth, and as in all the great and admirable operations of nature ever since.

I do not believe that God spake into existence, in a short period of time, vegetable life and forms in all their variety and maturity. I do not believe that the earth was clothed "in a day" with verdure, that the valleys waved with grass, and the forests teemed with full grown trees. Why should God work by miracle in the formation of plants, more than in other formations? I believe that *seed* was first created, and that the first vegetable form sprang from seed. Vegetable forms, at first, no doubt, were very few, such as the earth was fitted to sustain—the fungi, the mosses, and the ferns; but I believe they all sprang from germs or seeds, of whatever variety, in the *first instance*, and that those germs or seeds were eliminated, created, formed from the immediate elements existing in earth or air. Analyze seeds and you resolve them back into elementary principles, always found in earth or air. It was no more for the Creator to form seeds from elements ready existing and immediately at hand, than to form full-grown oaks or shrubbery, as some suppose he did. Natural operations are

constantly going on in the deep laboratories of the earth, eliminating earths, ores, and precious stones in all their beautiful and perfect forms. In the formation of these God works by fixed, natural laws. Was the formation of seeds more difficult than the formation of diamonds, or rubies, or pearls? I think it far more rational to suppose that Our Creator, in the gradual clothing of the earth with vegetable life, first formed seeds or germs, than to conclude that it was done by miracle, as many suppose.

My speculations may appear to many somewhat dogmatical, but I feel that they are at least as rational as the "Miracle theory."* "Method," I was almost tempted to say, was another attribute of God. The formation of worlds, and the laws which govern them—all the phenomena of earth, of animal and vegetable life, are born of method. With Him, method is eternal. Miracle, in His works, never appeared as a fixed, creative agent; but only to instruct, convince, or punish mankind. Method is and ever was, with Him, a fixed and eternal purpose, by which he creates and governs, originates and brings to perfection. Reasoning then from analogy, and form a comprehensive view of the ordinary operations of "God in Nature," we may safely infer that plants may have originally come from germs or seeds.

LEVERETT, September, 1857.

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* We have not the least wish to enter into any theological speculations which may be suggested by the above. A word, however, with regard to miracles. What is a miracle? A miracle—miraculum, wonder, something that astonishes—is simply a thing out of the common course, and is no more an exhibition of power than the ordinary operations of nature. If you admit with the writer of the above, as we most certainly do, that all things are of God, that the operations and results of nature are his works, so that, when an ear of corn matures in the field, by a slow elaboration of its materials from the soil and air, we have just as much occasion to admire the Divine power and goodness and to be grateful, as if God had created it for us in some new and strange way instead of the old and common, then you must admit that a miracle differs from the other works of God only by being out of the common course of things.

If a sick man, almost too feeble to move a limb, should all at once rise from his bed, bid his doctor and nurse farewell, and go to work in his field, that would be a miracle, a miraculum, a most astonishing occurrence. But if under the influence of medicine, kind nursing, and genial food, he should go through an agreeable convalescence, happy every day in being a little stronger, grateful to his God, his physician

and his nurse, till at length he should find his health restored and his age renewed, would not the result be the same, and would not the only difference be that in the latter case a beneficent result was reached in a very common, and in the former, in a very uncommon way?

So, if God should in an instant create a mighty oak, or a wide-spread elm, or a luxuriant fruit tree laden with fruit, would it imply more power, more beneficence, or more of any attribute, entitling him to our reverence and love, than the way in which he is creating millions of oaks, and elms, and fruit trees all the time? We can not see that it would. Some people are terribly afraid of new truth, lest it should circumvent the old, as if all truth were not consistent with itself. No truth can discredit the truths of the Bible. No knowledge of facts, as they really are, can be dishonorable to God. Whether the sun goes round the earth or the earth goes round the sun, it will do no harm for mankind to know it. What a pity that Gallileo's persecutors could not have known this. It would have saved the good man both pain and ignominy.

It would be so, if it should yet be shown, that God originally created all things by the slowest possible process; that he did not create full grown trees at once, nor seeds even, nor germs, but only by an aptitude in matter, under fitting circumstances and regulated by his own laws, to produce trees and the various plants which have sprung and may yet spring into being. This idea makes God no less the Creator. It represents him as the perpetual Creator. We teach no such doctrine. We are ignorant. We don't know why the fireweed springs upon the burned fallow. We don't know why, on earth thrown from the bottom of a well, plants spring up before unknown to that region. We don't know why, after the pine, oaks spring up where it seems next to impossible that acorns should exist in the soil. We know not whether God created the world and everything on it in an instant, or whether he wrought billions of years before the work could fairly be said to have begun, and is working yet, and will work on, a perpetual Creator. We only say that some facts are more easily explained on the latter theory; and that if it is true, the world will not be harmed by knowing it; nor will the least injury come from so far suspecting it to be true as to induce candid investigation, even if it have no foundation in truth. It is high time for mankind to learn, what but few have yet learned, that two persons may think very differently, and that on the most important subjects, and yet both behave pretty well. —Ed.

FOR THE AMERICAN FARMERS MAGAZINE.

Ethics in Agriculture.

MESSRS. EDS. :—The worth, dignity, and influence of classes in community depend not as much on the skill and dexterity, with which their peculiar business operations are conducted, as on the reputation they win and the character they sustain in regard to moral principle. No enterprise or pursuit can stand well in general favor, or reasonably expect approval from the judicious and discreet, the men who ordinarily give tone to popular sentiment, which bids defiance to the acknowledged laws of moral right and wrong. This social characteristic is essential to all that is estimable and truly desirable in human life. And since a good deal has been said, at one time and another, about elevating the standard of respectability in the farming interest, as compared with other professions, the topic seems to be fairly initiated into the routine of subjects which resort for discussion to such journals as the *American Farmers' Magazine.*

And as most that has hitherto appeared in publications of this sort, has, as far as I know, been directed towards the economical, I see not why it may not, properly enough, devolve on me to venture a word or two on the *morale* of the thing, it being a concern of such magnitude and extent.

The grand and all-absorbing question among tillers of the soil seems generally to reach no further than to the mere matter of pecuniary profit. Will the crop I contemplate *pay well* for the labor and cost I am about to bestow on it? Will the market receive the product and make me a generous remunerative return? In what kind of cultivation shall I be likely to find my best money account?

Now, Mr. Editor, in all soberness and honesty, let me ask, Is this properly the decisive consideration which is to prevail and overrule all others? Is no respect to be had to the interest and the well-being of those who are to be consumers of the articles prepared for them? Is it enough that the producer is compensated to his heart's content? Is his responsibility bounded by the gains which are to accrue to himself alone? "The earth is the Lord's and the fulness thereof;" and has he put it into the hands of the cultivator to be used by him as an instrument of life or death, as he may arbitrarily and capriciously elect? If man has a conscience that is at all alive to moral distinction, he will not suffer himself to be seduced or allured into any appropriation of the soil for the production of a bane, how high soever it may stand in the market, or however loudly called for by the victims of an appetite, which knows not how to refuse a drug pregnant with poison and death.

Having said this, let me in the name of the farming community, which I delight to honor, enter a decided protest against any desecration of even the least portion of American soil for the vile purpose of raising tobacco, that insidious enemy and destroyer of health and corrupter of good morals. Let that nauseous, that worse than useless weed alone; and let us use our lands for such increase as will afford plenty of wholesome nutriment, good bread and meat, together with needful covering for our bodies, and all this made doubly valuable by by additions of a "conscience void of offence towards God and man."

J. F.

Remarks.—We would dissuade everybody, if we could, from the use of tobacco, because we believe that all, or if not all, at least an overwhelming majority of those who use it, would be healthier, stronger, and longer lived without it. Their companionship would be worth more to their friends. They would enjoy life better, and be more useful. Their children would be happier and live longer. This will seem extravagant to many, but we do not say it without having looked at the subject long and in all its bearings; and we are just as well convinced that the general, habitual use of tobacco tends to the deterioration of a race, as that plenty of food, suitable clothing, sound education and reasonable labor tend to its elevation. The ethical bearings of the subject we leave with our correspondent. It would be easy to anathematize him and his arguments. Whether it would be easy to answer them, others must judge.

On the tendency of a free and general use of tobacco to deteriorate a people, we will say (not without some hesitation, because it may seem to imply an indelicacy of which we ought not to be guilty) that no sensible breeder of stock would endure that those animals, which are to be the fathers of his flocks and herds, should wear a seaton in the mouth or be made to drule constantly from any other cause; nor that their nostrils should be stuffed with Spanish flies or other substances to irritate the membranes and produce an unnatural sneezing; nor that their heads, trachea and lungs should be smoked half a dozen times a day. He insists that they shall be in *condition*—no ailment, no symptom of disease, perfect health. He would mourn if his favorite Eclipse or his Duke of Cambridge should betray a foul breath. *He is wise.*

How is it with those who are to be fathers of our grandchildren? The general, the *habitual*, the EXCESSIVE use of tobacco augurs badly. There is no use in closing our eyes to the fact. But enough has been said. Think out the rest.—ED.

History of Fine Wool Sheep.

THE following, which we extract from the speech delivered by Hon. J. COLLAMER, "on the Tariff and Wool interest," in the U. S. Senate, February 26th, will be found highly interesting to all classes of readers, and especially to sheep breeders. It is in reply to the suggestion of Mr. Hunter, of Virginia, that we did not raise fine wool in this country.—*Vt. Watchman and State Jour.*

There are no fine wools in the world, raised anywhere on this earth, which are not all from the same family of sheep. By fine wool, I mean such wool as is sometimes called spinning wool, which is spun and wove into broadcloths and kerseymeres, especially those which are required to take a finish; that is, after they are woven and fulled, there is a face raised upon them, by either carding or teaseling, and then they are sheared and pressed and calendered, for the purpose of making a finish on them. That can be done only with fulling wool. Now, where do the fulling wools come from? I say they are all from the same family of sheep.

At the period of our earliest acquaintance with Spain, there was found a certain breed of sheep called merino sheep. We do not know how early they were there. We have seen inklings that they were there at as early a period as the Romans had control of the country. Where they came from we know not; but the word "merino" means "over the sea," and it was connected with the idea that these sheep came over the sea, so that probably they were not indigenous to Spain originally. This is the family of sheep out of which all the fine wool sheep of the world were produced. For a number of centuries these sheep were entirely owned by the nobility and royal family of Spain. They were pastured and-driven north in summer, and south in winter, so that they were always kept on green fields. They were kept in large flocks. They roamed South into Andalusia, and north into Castile. For many centuries men were prohibited, under the most severe penalties, from carrying any sheep out of the kingdom. A man who exported a sheep was sentenced to the galleys for life. None of these sheep were obtained in the rest of Europe. In 1784 or 1785—I will not be exact in the date, but at any rate between 1780 and 1790—the King of Spain gave a flock of these sheep, forty in number, to George the Third. The English King gave him, as a royal present in return, six English coach horses. These sheep were placed at Windsor, under the care of Sir Joseph Banks, and the utmost exertions were made to induce the use of that kind of fine sheep among the farmers of England. To this day, England does not raise a pound of wool out of which you can make a yard of broadcloth that any gentleman in this house wears. For a long time all her fine wool has come from abroad. After Spain went into the business of digging gold in South America, all her wool was exported to England, there manufactured, and sent back to Spain to be sold, and they dug gold to pay for it. The result has been that, while they have run down, England has run up.

I wish to show why that flock of sheep did not succeed in England, and to show the difference between their condition and ours, to see

why fine wools succeed here and can not there. At the same time that that present was made to George the Third, a similar present was made to Louis the Sixteenth. The flock given to the King of France was put on the Ramboullet farm, which was then the royal farm, and is still, Bonaparte having always kept it. That flock of sheep, bred in, as I shall hereafter mention, is the French merino of the present day.

At the same time, the same present was made to the Elector of Saxony. The flock which went to the Elector of Saxony was attended to, and selected all the time for the finest wool, without regard to size. The French selected with regard to size. The Germans selected for fineness of wool merely. The flock given to the Elector of Saxony is the basis, the origin, the parentage of all the Saxony wool of the world, now to be found all over Bavaria, Silesia, Hungary and Russia, and this country—as I shall directly show.

About the latter part of last century, there was introduced into England that branch of farming called the turnip culture, which is the basis of prosperity to the English agriculturist at the present day. Everything in England which sustained human life, everything that the people could eat was very dear, as we all know, until a recent pepiod, since they have taken off their sliding scale of duties on wheat, and allowed foreign provisions to be introduced for the benefit of manufactures. The turnip culture was this; they sowed a large field, especially on the downs of England, with turnips—generally the Swedish turnips—and then in the fall of the year they would put upon the turnip fields a flock of their native long wool sheep—the best improved breeds of which are the South Downs and the Leicestershires. Those sheep ate the turnips on the ground. There was no gathering them —no cutting them up. When they exhausted one field they went to another, and so on through the winter. The climate being mild, they wintered in the fields on the turnips, and were in a fine condition for mutton in the spring. A mutton sheep in England, at that day and now, averages from eighty to one hundred pounds dressed off. The French merinoes, with all the improvements they could give them by breeding in, do not average more than forty pounds dressed off. The mutton of the English sheep would command in the British market, and has all the time for thirty years back, from ten to twelve cents a pound. It is a very superior mutton.

That is not all. When a piece of land in England had been tilled in the manner I mentioned, and the sheep herded upon it, it would produce twenty- two bushels of wheat to the acre, and that wheat averages from two dollars to two dollars and fifty cents a bushel in England at all times. Bearing these facts in mind, you will see how fruitless was the attempt to introduce into England these little merinoes, small sheep, which shear about three pounds and a half in their natural condition as they came from Spain. Even the French merinoes, as they have improved them, yield but six, and ours from three to three and a half or four pounds. The farmers were told by the nobility, "The King has made me a present of some fine wool sheep, and we want you to attend to them, so as not to be dependent on foreign countries for our supply of fine wool." The farmer saw at once that the wool from these sheep would not bring him more than two shillings

sterling a pound for three pounds, while the long wool sheep would shear eight or ten pounds of wool; and then the inquiry was, how much will that little sheep bring for mutton? Not a cent. You can never make valuable mutton of it. In Vermont, where we have so many fine wool sheep, our people use little or no mutton, though we have a little lamb occasionally. I never saw any mutton there that compared at all with the Virginia mutton which I see here. Indeed, I am reminded of an anecdote of an old neighbor of mine who was rather fond of mutton. He used to talk about these little merino sheep, and said, "When you got a quarter of it dressed off, you could see the light between the ribs. In good old times, when we had the large sheep, a man might go out and steal a sheep, and bring home something for his family to eat, but now, if you bring home one of these little merino sheep, you might as well have a tin lantern to eat." [Laughter.]

[CONCLUDED NEXT MONTH.]

FOR THE AMERICAN FARMERS' MAGAZINE.

A Trifle.

FARMERS are a class who should regard more than others, the smallest trifle. Yet how many we meet who disregard the small things, and deem them unworthy their consideration. Men of trade learn, from experience, to treasure up the items and fragments, as it is from those alone that they obtain their living and accumulate their fortunes—from saving as well as from getting.

With farmers it is different; they look upon the vast fields of grain and count the proceeds to be obtained from the crops now being harvested, and overlook the waste occasioned by the carelessness of their workmen. The crop is estimated by the hundreds of bushels, and not by the ear. A thought is not entertained that bushels are made of the smallest kernels.

In times when grain of all kinds was cut with the sickle, it was gathered much cleaner than by the processes now employed; yet an instance is related of a boy who ran after the reapers and picked up, straw by straw, what was dropped. It took some time to gather a handful, but gradually that swelled to a large sheaf by the addition of straws. So astonishing was the success of the boy, that the man from whose land the grain was gathered suspected something was wrong, and accused the lad of appropriating to his own use from the already gathered grain, but was assured by the reapers that such was not the case, and was induced from the circumstances to try it himself, and he asserted that he could gather enough to pay his men! It is no less astonishing than true.

By the above illustration it is not meant that farmers could or should adopt the plan of saving all the grain that may be wasted; but

only to serve to picture out the necessity and utility of saving in everything. Many things there are which go to waste because people do not consider their importance. Those chips which are allowed to lay there and rot, would warm the hearthstone of a dark chamber in the crowded city, and perhaps save many from suffering, and as a necessary consequence, suppress crime. On this subject there is room for much speculation. To specify all the things in which a saving could be affected, would occupy time and space to no consequence.

Some people think they have learned to perfection the art of saving; but there is one thing which demands their consideration: They save in quantities and don't mind a trifle. O. A. GOULD.

WATERTOWN, N. Y.

Sorgho in the South.

JUDGE DE LYON states in the Savannah *Georgia*, as the result of his experiment, that an acre of the cane will produce three hundred gallons of syrup, twenty-five bushels of seed, of the average weight of thirty-five pounds, and twelve hundred weight of fodder. He is also convinced that the syrup, by proper management, can be made to granulate. On the same subject, an experiment stated in the Chester (S. C.) *Standard* gives six hundred and twenty-five gallons of the syrup as the product per acre. Thus far the reports vary from one hundred and fifty to six hundred gallons. The Charleston *Standard* thinks the average will be finally settled at four hundred gallons.

One planter in Louisiana will send to the New-Orleans market this fall about three hundred barrels of sorgho molasses, and will put a large part of his plantation in the cane next year. It is his opinion that it will form a staunch ally to the old sugar cane.

It will be a strong spoke in the wheel of Virginia agriculture if every farmer can make his own sugar and molasses, besides an extensive addition to his forage, which is always in demand, and of which the supply generally runs short towards spring.— *Winchester (Va.) Republic.*

We suggest to our Virginia friends that the supply should not run short with the same man but once in a lifetime.—ED.

Menhaden Oil.

MENHADEN, or "pogies," as the fishermen call them, are a species of fish which swarm in millions along our shores in the summer season, and although formerly used only for bait, they are now caught in large quantities by the "down-east" fishermen for the manufacture of an oil which is valuable for dressing leather and other purposes. This business, as we learn from the Bangor *Whig*, is now an important and growing one, producing many thousand dollars annually, with a large profit. They are taken in nets in large quantities, boiled

in a large kettle fitted up in a furnace at the shore, then passed into a press constructed like a cider press, and the oil pressed from them. It is then barreled up and sent to the Boston market and elsewhere. When the fish become fat, they yield a gallon or more per huudred, (the fish being about the size of an alewive,) or a barrel of oil from 2500. The fishermen sometimes take from 1500 to 2000 in a single net set over night. The oil was worth $20 per barrel last year. This year it is not worth quite so much—say from $15 to $18—but it pays a large profit at that. The refuse or "chum" left, after expressing the oil, is used for manure, and is said to be almost equal to guano.

FOR THE AMERICAN FARMERS' MAGAZINE.

The "Old Fogy."

VERY few farmers come under this title, yet we know some who still use the old-fashioned "bull-plough," because their fathers or grandfathers did! Such a man may be called an "old fogy." An old fogy imagines he has an independence of mind. He will not listen to reason, because he thinks *he* knows quite as well how to manage his affairs as the inventor who claims superiority over the old-fashioned instrument which the fogy continues to follow. An old fogy has his eccentricities, odd habits, vague ideas, notions, proverbs, and steadiness. He always follows the same plough, swings the same scythe, and always uses that fork with the "tine bent," milks the same cows, and, in fact, steps in the same tracks throughout the entire year, turning neither to the right hand nor left.

The old fogy always makes money. Perhaps not so fast as his neighbor; but he invariably dies rich, though he never lived happy. His life is a constant, unbroken monotony, which, if once disturbed, renders the victim unhappy. Don't be a fogy. There are other and better ways to acquire property. Would you live for yourself alone?

WATERTOWN, N. Y., 1857. O. A. GOULD.

FOR THE AMERICAN FARMERS' MAGAZINE.

"I'll Give so Much, and I'll Take so Much."

NO. I. I'LL GIVE.

SUCH is the language of the merchant, I care not what grade of merchants he belongs to; whether he uses a basket, a wheelbarrow, a cart, a stall, a shop, a warehouse, a counting-room, or a bank. All are the same—men that live by buying and selling. This class of men at present are the ruling class of the nation. It is the merchant who regulates the price of all articles of commerce, not only in dry-goods, groceries, etc., but on everything the farmer has to sell. He regulates the price of grain, of beef, and of pork; the producer, the

farmer, who is the foundation of all other business—I say the foundation of all other business, because when the farmer ceases to exist, all other business must forbear—he has no say in the market. Why is this? The farmer, for the last five hundred years, has been nothing but an "understrapper," a despised class of people; if the men have not been, their profession has. But a short time has passed since he was thought worthy to have a voice either in Church or State. If a young man wanted to be somebody in the world, he must be a lawyer, doctor, or a merchant. The stigma is not all gone yet. There is something in the word *farmer* that is despised, especially by the young of both sexes.

Why? because the word "*work*" can not be stricken out. It is joined to farmer, and is as immovable as the Rock of Gibralter. If a young man farms for a livelihood, he must expect to have his hands tanned by the sun, and to get his shirt bosom "dirted in the bargain;" kid gloves and starched collars seldom, if ever, raise much grain. Black boots and superfine broadcloth pants seldom dig potatoes in the mud.

A farmer goes to market with a load of grain; when he enters town Mr. Land-Shark is there, meets him in the street and says to him, "Is that grain for sale?" "Yes." "What do you want for it?" or "What do you expect to get for it?" "Money," is the reply. Mr. Shark says, "I'll give you so much; it's more than you can get any where else in town." If his load is wheat, Shark's offer is fifty cents per bushel, he tells him that wheat is "down, the market is full." Farmer says, "That is low; can't you give a little more." "No, I can not afford it; I shall loose on it at that, but to accommodate you, I'll give that." Shark knows all the time that he is telling a falsehood as regards his "loosing on it." Farmer, instead of selling it to the consumer, like a fool tells Shark that he can have it at that price. Shark, instead of "loosing on it," sells it to the consumer at one hundred per cent profit. A scene like the above I saw in Fort Des Moines but a short time within the present century.

Another case. A boy of some seventeen years came to town with a load of some thirty watermelons. He no doubt had worked hard in planting, hoeing and taking care of his "patch," in order to get a little "change," perhaps to take a "spree" with his young "belle" of the prairie. Being unused to the customs of town, and in a hurry to get home, he too was met by a young shark or a clerk, and asked if those melons were for sale. "Yes," was the reply. "What are they worth," says the boy. "We can afford to give you one dollar for the lot; they are large, nice melons, but the market is full, and they are dull sale; that is the best we can do; you can't hardly sell them

in town; we are paying the highest price of any one." The boy believed him, and sold his melons. He thought that the clerk had told him the truth, and he believed him. After the boy had gone, I stepped into the store and asked what the price of those melons were. Fifteen cents. I asked if melons had not taken a rise. "No; they cost us nearly that." I do not say that all merchants are of this kind; there is now and then an honest merchant. The above cases that have been referred to, are of common occurrence among what are called "middle men," men that stand between the producer and the consumer. These "middle-men," instead of being a blessing to community, are a curse; they are the ones that make the "money," and if they can not get it honestly, then dishonestly.

Merchants are as necessary for the transacting of business as any other class of people, but "middle-men" are drones to society. Messrs. Editors, how long must this mode of swindling be practised upon the farmer? Until the farmer gets his eyes open. How is he to get his eyes open? It is through the press, the agricultural press, by reading such works as the *Am. Far. Mag.*, and by exposing such modes of doing business as the above. Who is the most to blame in this swindling business, shark or farmer. Shark is to blame for telling a falsehood, but farmer is to blame for several reasons, these reasons I will explain in my next number.

Mr. Editor, if you think these few lines worthy of publication, throw them to view among the farming class. The *Am. Far. Mag.* is the farmer's friend, and such things should be exposed. They are the truth, it can not be denied. You are at liberty to make such comments as you deem necessary, and I hope that the farmers will look to their own interest, expose such things to the world—read and inform yourselves. L. S. Spencer.

Lynn, Warren Co., Iowa.

We shall avail ourselves of the liberty given—should take the liberty whether or no—to comment on the above.

1. Our correspondent's definition of merchants—"all who live by buying and selling"—is good, is true to the letter. Our mercantile friends in the city plume themselves on being a very select class; and it is true that in their banking houses, their exchange offices, their tall stores and their gatherings about Wall street to raise and to cheapen property at pleasure, they appear like very gentlemanly men; and you would certainly suppose they had no design to cut your throat or pick your pockets. And then they know a good many things, though it must be confessed that their knowledge is mostly about matters of mere effemeral interest, things of the day and not worth remembering till to-morrow. And when we take into account that all

the petty dealers and tricksters, the agents, the drummers, the hateful and hated middle-men, all who buy and sell for a living, are part and parcel of the mess, we think they have no great to brag of as a class. We may as well put each man of them to trial on his own account, from the bank director who eats a great dinner at five o'clock, and the over-grown rum-dealer, who mourns that his daughter should be of so low instinct as to fall in love with a common chap, down to the poor news-vender, who eats a cold potato when he can get it, and is glad to have anybody marry his daughter who will take good care of her. If any of the kit and kin will do an honest business, that harms none, and is of general utility, let us honor them. Otherwise, let us think them scamps, as well as if they figure in Wall street and cheat the honest workers out of millions, as if they sell bad fruit by the street side and cheat the buyer out of pennies. This is the best rule we know of for judging of the class—to put each upon his individual responsibility.

2. We can not quite agree with Mr. Spencer, that the merchants control the prices of every thing, and that farmers have no "say" in the matter. It is the farmer's business to look after the market *prospectively*, and to cultivate as far as may be such things as will be wanted. In this way the intelligent, far-seeing farmer, though he *says* little, *does*, nevertheless, what will more or less influence prices. Commerce does not alone fix the price of every thing. Commerce does not desire fixed prices. It prefers that prices should be ever changing, up and down, down and up, even and round, here, and there, and nowhere, like the angler's bob on the wavy stream, because the merchant is sure to out-wit the producer in such fluctuations, if not in every instance, yet in a great majority of instances. And then if he gets bit now and then at his own tricks, he can wipe out all former obligations with a very soft sponge, and begin anew, just as good in Water street and along the wharves as if he had turned no somerset by and for the benefit of his own brains. That mercantile contrivances and connivances are always shuffling prices, to the great detriment of the laborer and honest holder of property, is quite certain. This effects the farmer—sometimes favorably, but generally very unfavorably. At one time it makes produce higher than it would be, by the natural law of supply and demand, and then the farmer profits by it, if he happens to hold the article in his own hands. At another it depresses the price below where it ought to be, by the same law, and then the farmer is pretty sure to loose. The merchant ascertains sooner than the farmer whether the tendencies are upward or downward, and of course he has the advantage, and his very instinct, keen as the scent of a blood-hound, leads him to use it. It will always

be so, as long as our present banking system, and a consequent overgrown credit system, exists. Any bank in this city *can* make a particular butcher rich in a few days, partly at the expense of the farmers and more at that of the New-York eaters of meat, and they *will do it*, if that butcher happens to be the friend of an influential director. The banks make a great many men rich; and that would be a good thing, if they did not make a hundred laboring men poor, while they enrich one sharper. It is with farm produce generally, as with butcher's meat. Banks and sharpers are always making it more precious with the consumer than with the producer. How many produce merchants are there to-day in this city who burst up in other business ten years ago and left their creditors to go *whistling*, who are now worth more money—not worth more, but worth more money—than all the farmers together, who have grown all the produce they have bought and sold? They are not great men, don't know much, but know one thing well, and that is how to make a tub of butter or a fat cheese cost the consumer about twice as much as it brings the producer, i such a way that they get the lion's share of the difference, and give the ass's share to the carrier. That is our idea of commerce; and a long as our bloated credit system, giving to sharpers, not worth a red penny, millions to speculate with to the detriment of better men, lasts, there will be a few honest merchants doing a useful business, worthy of all praise; but the great body of those who buy and sell for a living, will be scamps, and they will live and some of them get rich at the expense of honest men.

3. The story of the man selling his wheat and the boy his melons, is a very good illustration. It shows how the merchant *sells* the farmer. But courage, friend! It does not prove that the farmers of the country are all dolts. Much less does it prove that they always will be. There is a better time coming. There was a time when we bought all our manufactured goods of other nations. There were no consumers of agricultural produce among us except those who grew it, and no money came for the produce that was put into their own mouths It was then that the farmers learned that they were underlings. How could producers without a customer be anything else? But now we make half of our own iron. We make nearly half of all our manufactured goods. The farmer begins to have a few customers about him. The times are better for him; and they will be still better when our government wakes up, as it assuredly will, sooner or later, to its obligations to the great agricultural interest, so far as to inaugurate measures that will give to the American farmers the feeding of the men who make their coats, log-chains, bed-blankets, etc., etc. Let us look at the question, whether we shall supply our own wants or depend

upon other nations to supply them, not as partizans, not in the light of stump speeches which we may have heard, not as the abetters of some theory which we may have taken up hastily about its being cheaper to buy than to make our own necessaries, but as farmers, as men capable of thinking for ourselves, who mean to be at least on a level with the rest of mankind, and who *will have*, yes, WILL HAVE the profit of feeding the makers of our sheep-shears, case-knives, wearing apparel, and what else we want.—ED.

Horticultural.

Preparation of Soil.

IN the cultivation of the garden, as of the farm, the first thing is to select the locality for a particular crop, or for a permanent object, as that of a garden, for instance, and to prepare the soil.

After all the divisions of soils that have been made, they may for all practical purposes be reduced to three, *sandy*, *clayey*, and *loamy*, in the first of which *sand* predominates, and in the second *clay*, while in the third sand and clay are happily blended in about those proportions which render them desirable to the cultivator.

A loamy soil is to be preferred for gardening purposes. Choose such a soil, if you have it on your farm, and in a location suitable for the garden. But remember that the garden is a part of the homestead; it is to be beautiful as well as profitable; its elegances and luxuries are to be on hand and not afar off; it is to adorn your dwelling, as your dwelling is to adorn it; is to be the rendezvous for many a social enjoyment, earlier in the morning than you go to the broad field, and later in the evening than you return from its weary labors.

If, then, your buildings are already erected, or even if the ground for them is chosen, you have no great range for the choice of a "garden spot." If the soil, where as a matter of taste and convenience you want to meet your wife and children and friends, among flowers and fruits and esculents, is not a feasible loam with a porous subsoil, one that will both stand the drouth and drink in excessive rains so readily as not to keep the surface long flooded, you must make it such. The expense will be considerable, but it will pay, and you can not enjoy the pleasures and profits without.

An expense may be necessary which might well alarm you, if it were to be applied to your whole farm. But what is it for an acre, or half an acre? Nothing compared with the substantial benefits promised, to say nothing of the exquisite pleasure. If the soil is so exceed-

ingly refractory that it can not be made deep and mellow and rich, without a very great expense, it might be well to content yourself with a smaller garden than you would otherwise cultivate, though as a general rule we believe the gardens of our country are too small, and should be enlarged rather than diminished. If the mechanic or the professional man has but the six-tenth of an acre, it is worth a great deal, and we would advise him to make the most of it. But why should not the farmer, who has land enough, take a generous piece for a garden? Of all that the garden produces, there is scarcely an item which he can not dispose of advantageously, if he have a surplus, either by sale, or by giving it away, or feeding it to stock. An acre is perhaps better than more, because if the enclosure is too large, it may fail of getting cultivated so well as to be ornamental and highly productive; and half an acre is certainly better than less, because the person who but half appreciates the economical and ornamental value of a garden, can not do all he would desire on less ground. An acre, with fruit borders occupying one-half, and leaving an oblong or square half acre for the garden proper, would be to our mind, and that whether the farm of which it were a part were thirty acres or three hundred.

If your soil is a medium loam, and has a porous subsoil, you have nothing to do in the way of preparing the soil but to plough 10 or 15 inches deep, harrow, grade, plough again, and work in a plenty of good barn manure, so incorporating it with the soil that it shall pervade every inch, and you are ready to set your trees and make your garden. But suppose it to be a stiff instead of a medium loam, a few loads of sand in addition to the manure will effect the requisite amendment. Or if it is a light, sandy loam, then a few loads of clay will make it just what you want. And the cost in either case will hardly be worth naming. If instead of being a loam, a little too stiff or rather too light, it is a sandy soil, then clay in addition to manure is all you want to make it just what you would have it. The more sandy the more clay will be required. Or if your soil is the stiffest clay, sand enough with manure will make it as good a loam as you can desire. Where clay is used as an amendment, it should always be exposed to the frosts of winter before ploughing in, and should be thoroughly incorporated with the soil; and even when sand is used the soil should be ploughed more than once, harrowed many times, and the new ingredient evenly mixed. And where sand or clay, as one or the other may be required, can not be obtained within a reasonable distance, swamp mud, long out and well warmed in the sun, and washed with rains, will go far towards producing the same amendments—will really produce, only less permanently, both the effect of clay on sand, and of sand on

clay, rendering a compact soil lighter, and a light soil more compact. The difference is, that this application would need to be repeated every few years, whereas the amendment of a soil by applying its opposite, is a permanent amendment.

The above is all on the supposition that the subsoil is porous, such that water passes downward freely, neither floods the surface, nor stops and becomes stagnant one, two, nor even three feet below. If there is any doubt about this, dig holes, like post holes, one, two, three, and three and-a-half feet deep, and if water stands more than a very few minutes in them after even the hardest shower, that ground requires draining, in order to be fit for a garden. You then have to preface your other amendments, whatever may be required, by underdraining. Of course, you would not have an open drain in your garden or anywhere near your house. A tidy farmer will hardly have them anywhere. Go to work then, and lay down the under-drains. For a garden where you expect to do a good deal of work, and would deem it bad economy to render your labor less satisfactory by any defect in the soil, the drains should be near each other. In some cases one very deep drain running through the center, and side drains falling in from opposite directions, not quite as deep, and near to each other, would be advisable. But we all know that "water runs down hill," and the owner can decide where to lay his drains better than somebody a thousand miles off.

We will only add, that the autumn is the best time to prepare the ground for a garden. Winter even need not be lost, in case of large amounts of heavy earth to be drawn from a distance. How we wish that one million of farms in our land, now showing only a little, stingy, miserable apology for a garden, not the most beautiful nor always the most productive spots on these farms, could show next spring, as the snow leaves them, grounds already prepared for gardens beautiful enough and fruitful enough to tempt the angels to come down and walk in them in the cool of the morning and evening.

Reader, we are not talking about the garden. It is only about preparing the ground. Do this, and next spring you can set your trees, begin your flower-beds, plant your seeds, and all that you do will prosper. We will tell you how to proceed as best we can. Have a good garden, you who have land. We have none—are doomed to look on brick and mortar and down on pebble stones. But you, who have land, should have a proud garden You may be proud of it. If it is a sin to be proud of a good garden—we don't believe it is—we'll act the priest and give you absolution. Have a garden that any one could be proud of, and not sin, and if the angels do not visit you there, your wives and daughters and their female

friends will, and with a little aid of the imagination, you can think the angels were helping you. Prepare the plot before winter.

Fruit Garden and Orchard.

HARDY trees should be reviewed in autumn. Manure unthrifty trees. Top-dress straw-berry beds late in the month. Bank up trees to prevent the attack of mice. Lay down and protect tender grapes.—Grape layers may be removed from the vine.—Grafts may be cut and preserved.— *Working Farmer.*

FOR THE AMERICAN FARMERS' MAGAZINE.

Cabbage.

WE have been astonished at the growth of this vegetable. We have recently seen a field of two acres or more covered with the drum-head cabbage, (so called) their leaves extending so as to interfere with each other, some of the larger plants weighing between thirty and forty pounds, and very few of them less than twenty pounds. Supposing the plants to number 3000, and their average weight to be 25 lbs., this would give 85,000 lbs., or forty-two and a half tons to the acre. Is there any other vegetable that will produce so large a crop?

This crop was produced on land of ordinary quality, simply by applying one shovelful of a compost to each hill of cabbage, made of equal quantities of barn and sea manure and night-soil, thoroughly mingled. This crop is grown with as little labor as any other, and requires no special skill in planting or growing. Great quantities of these cabbage are used by the Germans and the Irish, and it is found one of the cheapest and most palatable articles of their food.

We know of no man who has been more successful in the growth of cabbage than Mr. S. A. Merrill, of Salem, Mass., on the farm of the late E. H. Derby.

SEPT. 12, 1857.

Kitchen Garden.

THIN out turnips by pulling the larger ones for market, leaving the smaller to increase in size. Prepare for gathering fall crops; gather such as the weather may demand. Continue to weed spinage, etc. Earth up celery on dry days, after the dew has dried off. Prepare frames for parsely, lettuce, cabbage, cauliflower, and such other plants as were sown last month. Put away vegetables by the latter part of the month for protection, and sales during winter. Potatoes should be cellared or put in pits or piles, so as to secure them from wet and frosts.

In taking up roots and storing them, begin with the most tender, and take advantage of dry weather while you have it.

Expose pumpkins and winter squashes to the sun and wind, placing them on a dry board before storing them. Pack beets in sand in cellar, or put them in pits. Horse-radish may now be dug for use as wanted, leaving the old stools for future production.

Weeding at this time should not be considered as useless, and indeed the removal of parasites cannot receive too much attention in late fall. Mulching soils intended for early gardening, will add materially to their profitable culture and earlier products.

To Destroy Weeds.

Those who have visited the Nursery of Wm. Reid, at Elizabeth, New-Jersey, have seen 20 acres free from weeds. We once heard the question asked of Mr. Reid, how he managed to have his weeds so thoroughly pulled? He replied that "they were never pulled, but that the cultivator and other tools were run between the trees and crops so frequently, that the weeds were disturbed and destroyed before they became large enough to pull." The only question in our mind was, "Will so many disturbances of the soil as would be necessary to destroy all weeds be paid for by increased crops?" Our experience since has proved, that row crops of all kinds pay a better profit when the soil is so frequently disturbed as to destroy all weeds, than with a less number of disturbances, and this, too, on soil naturally as full of weeds as any other we ever have seen. It must be admitted, however, that hand hoes are not the proper implements with which to disturb row crops, or to destroy weeds among such crops, with the single exception perhaps of a few weeds between plants in the rows, but never between the rows.— *Working Far.*

Only, among potatoes, the earth should not be thrown around the hills but once, and we would recommend great caution about disturbing the roots of corn, after the plants have attained a height of two or three feet.—Ed.

High Farming.

Mr. F. Mechi, whose name is associated with the first triumphs of American reaping machines in England, which occurred on his farm at Tiptree, has recently written a little work called "How to Farm Profitably," in which he disposes, in a good humored manner, of all those who have taken grounds against *high farming.* He says:

"I have often been much amused by the compassionate look and manner in which my friends inquired after my doings at Tiptree. The translation of these sentiments is this: 'Mr. Mechi, you are kindly losing money by your experiments to oblige the country, and we ought to feel grateful to you.' But I sternly ejaculate that what does not pay in agriculture is not an improvement. The fact is, for several years I have been deriving a most gratifying return for my expenditure, and it is of a very enduring and continuous character; but the world does not believe it."

Hygienic Influence of Trees.

The cultivation of forest trees is becoming more and more a subject of serious consideration among public economists.

The relation of trees to the comforts and conveniences of life, and the great question of a future supply, which arises in view of the continual destruction of our forests has attracted the attention of the best intellects of our country

To the physician the subject has an additional importance in view of the hygienic influence of trees upon the atmosphere, and consequently upon the human system, both in health and disease.

It is well known that new diseases make their appearance as the forests are cleared away, and the superior physical power and health of backwoodsmen over the inhabitants of treeless plains, has always been acknowledged.

The influence of animal and vegetable life, one upon the other, has not escaped the attention of observing men; but little or no effort has been made to inform the public of many facts in connection with this subject which it is vitally important should be known; and a wholesale destruction of our forest trees has gone on to an extent that threatens to leave us, at a time not far in the future, comparatively destitute of the great pride of America—its forests.

The physiological influence of trees of all sorts is apparent to every one who knows the avidity with which they absorb carbon and ammonia, the two great extractions of animal life, which, if left free in the atmosphere, render poisonous the air we breathe.

The planting of trees in our cities, and the preservation of forests, would do more to preserve the public health than many other more expensive hygienic measures.—*N. H. Jour. Med.*

The Fruitery.

Those who have them of a few years' growth, will now be realizing a very pleasant advantage over their less provident neighbors; but not without still constant and faithful care. Insects are to be observed and destroyed; blight to be prevented; every useless leaf and twig to be carefully removed. Whatever does not add directly to the health and productiveness of the tree or bush, is to be avoided; whatever does, to be appropriated.

The mildew, which is the greatest foe to the Gooseberry, may be prevented by removing the earth from directly around the roots, and mulching with salted hay, or any light compost well saturated with salt. Indeed, this system of mulching can not be too highly recommended for fruits generally. It should cover the ground four or five inches in depth, and extend as far out as the hight of the bush or tree; thus protecting the roots from the effects of intense heat and sudden changes of temperature.

If the *quality* of your fruit is a more desirable object than the *quantity*, a larger size and better flavor may be secured by thinning out from one-third to one-half, as soon as it is fairly set; or, perhaps, better still, by pinching off the blossoms.— *Wisconsin Farmer.*

MECHANICS' GUIDE.

Recent American Inventions.

Sewing Machines.

A GENERAL interest appears to be awakened upon the subject of these domestic labor-saving machines, which extends to all classes of the community. In our recent tour to the East, we visited scarcely a single family who did not make some inquiry in reference to them. Every sewing girl regards her fortune as secure if she can possess one. Housewives look upon them as a godsend, that will save them a large portion of the time now devoted to the preparation of clothes for the family. And among even the extra fashionable, there seems a quiet current in actual motion, freighted with sewing machines for their special use. Our Fifth Avenue could make quite a parade of these implements. But there is, for obvious reasons, a universal fear of being cheated in the purchase. The wrong machine, or a machine badly constructed, or not in complete preparation for use, may be chosen, from the entire want of experience and of all knowledge in regard to them. Hence the anxiety of those who, in scores, have inquired of us, "what is the best?"

To answer this question is about as difficult as to tell which is the best apple in the market, or the best pear, or the handsomest dress pattern. But there are certain things that we can state in reference to them, which will be a useful guide, to some extent, for all those who would procure this curious and useful mechanism.

The world is indebted to the mechanical genius of this country for all the sewing machines in actual use in every country under the sun. The patent of Mr. Howe, for the "shuttle movement," which was obtained in 1846, is the beginning of the history of sewing machines for general use, and although he was not able to perfect his machinery so as to make a good machine, those who were competent to this, or rather who were successful in doing this, were obliged to use his "shuttle movement," because his patent covers all the known contrivances for using two threads, and all the recent inventors are obliged to pay him a handsome tribute for the use of that movement. This, of course, secures to him an immense income from sewing machines, though he never made one that the public would buy. Leaving the construction of the various parts of these machines, we proceed to make such suggestions as are of interest to one who would purchase.

Each kind of machine makes a peculiar stitch, and is confined to that, with the exception mentioned hereafter. The length of the stitch can be varied in all.

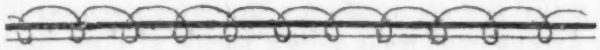
The machines familiar to us make one of the three following stitches: The tambour or chain stitch, the lock stitch, or (as in Grover and Baker's) a stitch with a compound or double looping.

The tambour stitch is that in common use in manufactories of broadcloth, etc., for marking their goods. It is formed by driving the needle through the cloth, (the eye of the needle being near the point,) then withdrawing it, but

leaving a loop "slack," or not drawn out. The needle is again driven through the cloth, in the place of the second stitch, and a second loop left as before. The first loop is then hitched on to the second, which second loop secures the

first as soon as the second is itself hitched on to the third, as already described, and so the process goes on. Each loop is fastened by the next to the end of the work. Hence if this end of the thread is not properly secured, a slight force applied to it will draw out the whole seam. But it can not be thus ripped from the end at which the work was commenced. This is essentially the same stitch that is formed in plain knitting.

Another stitch is the lock or shuttle stitch, patented by Mr. Howe. This stitch is made by nearly all the machines which use two threads, the second thread being wound on a "shuttle" or its equivalent, on the under side of the work.



This is formed by locking one thread in another, as a man would hook his two fore fingers together. The second diagram exhibits this loop. This is sometimes called the mail bag stitch. The needle is thrust through the cloth, and then withdrawn, leaving a slack loop, when a shuttle or some other similar contrivance draws a thread through this loop. The next descent of the needle draws this loop tight, while the shuttle thread prevents the first or needle thread from escaping through the cloth. This action is constantly repeated. The lower thread may be nearly or quite straight, as it always is when *hard* cloth as linen is sewed. It then operates like a wire, running through every loop, or like the chain of the mail-bag, and thus holds the work firm. If, in using this stitch, the lower thread is quite straight, and the work drawn too tight, or gathered, whenever force is applied, as in washing, ironing, etc., to pull the cloth straight, the thread is liable to break. But few stitches, however, would be "let down" by this, the tightness of the work securing the thread in its place. If the under thread is drawn nearly or quite into the center of the cloth, as it would be in thick goods, if both threads are equally tight, the elasticity of the cloth will secure the thread from breaking, and the work will be much more durable.

A third stitch is made only by Grover & Baker's machine, and is formed as follows: The needle is thrust through the cloth and withdrawn, leaving a loop as in those before described, which loop is kept in its place by a rotary hook

till a second loop is formed. The first loop is then passed between the threads of the second loop, and hitched over the third loop, and the whole is drawn tight. The second loop, passing between the threads of the third, is hitched over the fourth, and so on.

The complication of the stitch made by Grover & Baker's machines, in other words, the double looping of each stitch, produces on the under side of the work a small ridge, which is a blemish to its appearance where both sides are exposed to view, as in shirt collars, wristbands, etc. Hence they manufacture

another kind of machine, to be used for such purposes, which makes the same stitch as the other high-priced machines, though with different machinery.

The machine referred to as forming different stitches, is Robinson's, or rather "Robinson's with Roper's improvement." This uses only a needle-full of thread, the whole length of which passes through the eye of the needle at every stitch, the eye being a kind of hook, and the needle re-seizing the thread at every movement. Hence, if there is any imperfection in the thread, it will be discovered at once; its rupture is almost certain. This machine takes any stitch in use, we believe, except the "button hole" stitch. A friend informs us that Mr. Harrison, of this city, has a machine designed for sewing button holes, but we have never seen it.

The machines of Wheeler & Wilson, and Singer & Co., make the lock stitch, as shown in the second diagram. All the "cheap sewing machines" we have examined, as Pratt's, Watson's, Avery's, etc., make the tambour stitch, as shown in the first diagram.

So far as any advantages are to be found in one or the other of these, we are aware of none except what results from the difference of the stitch, and also the ease with which the different machines are kept in motion. One form of machine may be thought more neat and tasteful than another, and one or the other be more easily managed by particular individuals, its mysteries being more readily understood, but hosts of certificates might be obtained by each, testifying that each one is far better than all the rest, The chief point of difference between the several machines may therefore be stated as follows:

Grover & Baker's double-locked stitch is peculiar to their machines. Their shuttle machine, Wheeler & Wilson's, and Singer & Co.'s, all make the same stitch, but by different machinery, and into these mechanical differences we can not now enter. They do not very materially affect the comparative value of either. Robinson's makes its various kinds of stitches, but it has complicated machinery, does less work in a given time, and requires more effort to work it. It requires also the very best of thread. The cheap machines make the tambour stitch only, as in first diagram, and will not do so much work as the more expensive machines. There are other machines, too numerous to mention, both using the shuttle and a single thread, the special merits of which have not been brought to our notice. Some are "high priced;" some are "cheap," and one or two, like Woodruff's, are more costly than those named as cheap, and cheaper than those called high priced.

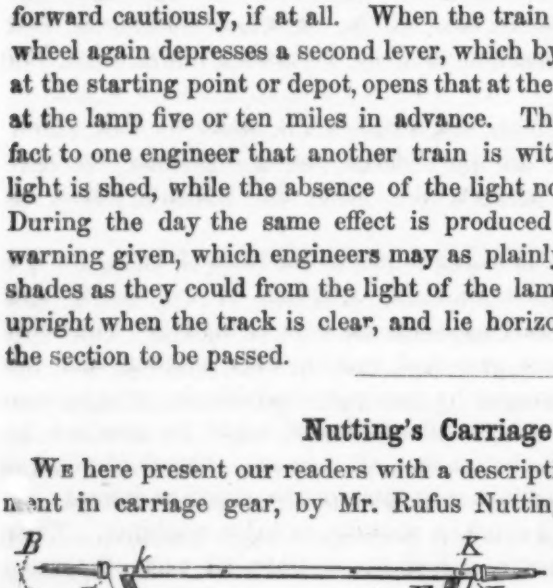
Telegraphs for Railroads.

A NEW system of telegraph for railroads has been devised by Mr. L. Solomons, of Savannah, Ga., which seems to us very promising. The subject is one of very great importance, and all suggestions in relation to it should receive due consideration. If a plan proposed is a bad one, it may suggest a good one. Mr. Solomon uses signals, consisting of lanterns placed at intervals of five or ten miles along the whole line of the road. The sides of the lanterns next to the road are closed so as to exclude the light. Revolving shades, governed by an electrical current, alternately shut off the light of the lamps, or expose it so as to throw its rays up or down the road. A single wire connects these re-

volving shades in a series of telegraphic circuits, which are completed only when an additional wheel, attached to a locomotive for the purpose, passes over a lever which is fixed with necessary insulation on the track near each signal-lamp. As soon as this wheel presses on the lever, its further arm is thrown up, and the point of contact completes a telegraphic circuit of five or ten miles, and thus makes a magnet of a coil of wire, which changes the position of the revolving shades, and exposes the light of the lamp five or ten miles ahead, warning engineers on trains moving in counter directions that they must go forward cautiously, if at all. When the train reaches the next signal lamp, the wheel again depresses a second lever, which by a like operation closes the shade at the starting point or depot, opens that at the second signal lamp, and that also at the lamp five or ten miles in advance. The lights thus opened disclose the fact to one engineer that another train is within the section over which the light is shed, while the absence of the light notifies him that the track is clear. During the day the same effect is produced upon the shades, and the same warning given, which engineers may as plainly learn from the position of the shades as they could from the light of the lamps at night. The shades stand upright when the track is clear, and lie horizontally when there is a train on the section to be passed.

Nutting's Carriage Gear.

We here present our readers with a description and engraving of an improvement in carriage gear, by Mr. Rufus Nutting, of Randolph, Vt., for which a patent was obtained in July last. The improvement consists in so constructing and applying the springs that a variety of pressure upon them shall not vary their length, so as to put the wheels out of "track," if the pressure happens to be greater upon one spring than the other; also in so combining springs and guard rods or straps for carriages with the body and axles, that they will answer the five-fold purpose of springs, reaches, perch, braces, and rocker, thereby greatly diminishing the weight and cost of carriages, while they are not only not injured in any respect, but greatly improved.



A is the forward axle, raised in the central part for increased stiffness, and also that the downward curvature near the end of the springs, C, may not hit it while turning the carriage. The hind end of the springs are T shaped and firmly held to the upper side of the axle, B, by the clasp, I, and the bolt, K, which also holds to the under side the curved bar or plate, E, which projects forward and downward about four inches, or to a certain point which is always at the same distance from the ear, H', however much the axle, B, is made to

roll by the depression of the springs, and into which is linked the guard, D, attached to the ear, H', which is a part of the chafing iron, H. The object of the guard, D, is to prevent any extension of the spring when the wheel suddenly strikes any obstruction, and also to support the body in case the spring should break.

The springs, C, are curved downward near each end just so much that in depressing them those parts below a straight line, from one end to the other, increase just as much as that part above decreases, and *vice versa*, and being firmly fastened near to the outer ends of the hind axle, converge to the king-plate or fifth wheel, F, to which they are bolted, and through which the king-bolt, G, passes loosely, and screws into the under side of the forward axle, which is rounded a little upon its upper side, that the springs may play freely, the thills being *firmly* attached to it, instead of being connected by *joints* or *hinges*, as is sometimes the case. The body is attached to the springs by spring-bars, as usual.

The advantages of this invention consist chiefly in simplicity of construction, as by it 2 reaches, 1 perch, 1 rocker, 6 iron plates or braces, 18 bolts, and 4 hinges or joints, usually used, are wholly dispensed with, thus lessening cost and weight; in admitting of longer and consequently more elastic springs without increasing the length of the carriage; in shorter turning; in allowing the hind axle to be much smaller and lighter; in admitting of having the four wheels of equal size, which renders the jolting much less and the draft easier; in stillness in running, it being impossible for the king-bolt to work loose or rattle, and the guards being always *tense*, so that they can make no noise; in lightness of appearance, etc., etc.

The chief features of this improvement have been thoroughly tested in one one-horse and one two-horse carriage for more than a year, and it proves entirely satisfactory.

American Institute.

The twenty-ninth Annual Fair of this honorable and useful institution was opened to the public, as has been announced. We have been able to make but a very partial examination of the numerous machines and useful inventions there collected, nor have we space fully to describe the few we have examined. Besides, many pieces of machinery are not yet in operation. Hence we can make but a beginning in this direction. The show will prove a good one, and will pay well for the time given to it. For the better appreciation of the extent and value of the exhibition, in some of the more important branches, we shall take them up in classes. But convenience requires us now to refer to several of a miscellaneous character without much order or arrangement.

SPRING STAIRS.

Mr. Charles Robinson of Cambridgeport, Mass., exhibits his Patent Elastic Spring Stairs. This invention was patented in May last, and consists of a steel spring in connection with an India rubber supporter, which are placed upon a cross slat under the stair, upon which the stair rests. At each tread of the foot the spring yields, and in its expanding or upward movement, it diminishes the effort required for rising to the next stair. The yielding of the spring is also a

relief as the foot rests upon a stair, either in ascending or descending, preventing all the jarring which sensitive nerves or weak or tired persons sometimes feel even in descending a steep hill. The whole cost of a stair thus connected, is within a dollar and a half.

WINDOW SASH DETACHMENT.

Mr. John Casey, whose Depot is announced as 345 Broadway, exhibits a new and very much improved method of attaching the cords and pullies to a window sash, and of removing the sash from its casings. The invention was patented June 1856, and is very simple, consisting only of a large spherical knot at the end of the cord, let into a corresponding nitch made for it in the edge of the sash. Hence there is no untying or cutting of cords, when the window is to be removed. The sash is taken out from its position in its frame without drawin a nail or turning a screw.

WINDOW BLIND OPERATOR.

McMaken's Blind Operator is designed to open and shut an outside blind, without opening the window. This is done by jointed levers, running through the lower side of the frame, fastened to the blind, and secured in its place on the inside of the window by a small brass plate. The change is effected very easily; the blind is moved to and kept at any desired position, and does not interfere with shutters. Several architects have given it their commendation.

ORNAMENTAL FLOORING.

Messrs. Groebl & Volkmar, of Baltimore, Md., exhibit some very handsome specimens of "improved marquetry," which they claim to be an improvement upon all hitherto in use. It consists of Mosaics of various patterns, and is suitable for private or public buildings. It is very highly ornamental. Its cost is $1.5 or $1.25 per square foot, more or less, according to its figure, etc.

VENTILATING CHAIR.

We saw at the Mechanic Fair, in Lowell, a chair, the rocking of which kept in motion a large fan, just over head. But a much more luxurious arrangement is on exhibition at the Crystal Palace. Between the back ends of the rockers of a well-stuffed chair, are arranged compound bellows, placed upon the floor; a pipe leads from these bellows into an ice-box under the seat, where the draft is cooled. Another pipe leads from the ice-box up the side of the chair to a convenient height, which then turns towards its occupant, who receives the draft upon his person. In its passage the draft passes through a box provided with any desired scent, so that this artificial current breathes of roses, or spices, and will carry any medical influence which is placed within its course, to the lungs of an invalid. The whole arrangement costs from $18 to $20 and upwards, according to its style. It is exhibited by Mr. David Kahnweiler, of Wilmington, N. C.

PORTABLE PRINTING PRESS.

A very simple little affair, which one wonders never was thought of before, is Lowe's Patent Portable Printing Press, which does its work very neatly. The smallest size prints a sheet 5 by 6 inches, and costs but $5, and the largest 13 by 17 inches. This costs $15. It may also be conveniently used as a letter copying press. It is exhibited by the Lowe Press Company, Boston.

IRON FURNITURE.

Very elegant furniture is now manufactured, exclusively of iron. Many articles are on exhibition at the Crystal Palace. Among the most beautiful are Patent Spring Chairs from the ware-room 292 Broadway. These are even luxurious, so perfectly are they arranged. But whenever iron comes even in indirect contact with the person, it is found to be uncomfortable in winter. These chairs are designed to be proof against this. How successfully this is carried out we can not judge.

WRIGHT'S BED BOTTOM.

This old friend of ours again makes its appearance. Continued use of it confirms our conviction that it is at least as good as the best. It has also the advantage of being easily kept clean, every part being perfectly accessible both to the brush and the scouring cloth. It is for sale 640 Broadway.

We have memorandums of other articles equally worthy of special mention, but our pages are full, and we must defer the mention of them to our next number.

Mechanics Fair, Lowell, Mass.

THE second exhibition of the Middlesex County Mechanic Association is now in progress. We had the pleasure of being present at its opening, and of examining its numerous apartments.

Lowell is the center of a vast array of mechanical talent. The mantle of its founders, the Lowells and the Moodys, now rests on not a few whose inventive skill, and whose executive energy have wrought and are still working out an amount of good through the world, the origin of which the world is ignorant of, and which it constantly uses as a means of wealth and of power, while the inventors are seldom thought of, and their very names may not endure longer than will their tombstones.

The anxiety and paralysis which have seized whole communities of business men, in almost every section of our country, have not failed to make a deep mark upon the industry of that city. One "corporation" after another has stopped its machinery and dismissed its operatives—the same process that is going on at Lewiston, Newburyport, in Rhode Island, and indeed in almost all manufacturing districts. This turn of affairs has no doubt operated unfavorably upon the Fair. Mechanics and inventors had less than their usual ardor of ambition, and less hope of present advantage from the exhibition of their ingenious products. In several departments the show is therefore less extensive than we noticed in their first exhibition some two or three years ago.

Nevertheless, enough is there collected to show the high attainments and consummate practical skill, which characterize the people of that city and county, while strangers residing at a distance make some very valuable contributions to the show.

Of cotton, woolen, and silk goods, white and colored, there is a very extensive and very elegant assortment from the Merrimac and Hamilton corporations of Lowell, the Lowell Bleachery and Dye Works, from the Lawrence Mills, and the Lewiston Mills. Most of these are from the well known house of Lawrence & Stone, the agents of these and other manufacturing establishments, whose repu-

tation is world-wide and not excelled by that of any house in Christendom, while it is equalled by few.

In the home-made department we saw much to admire and some to censure. A quilt composed of some six or seven thousand pieces, sewed together by a girl of thirteen years of age, proves, by "six or seven thousand" witnesses, that "all the fools are not dead yet," and that some mothers have very debased and debasing views of the elements of true education, and of the essence of good domestic training. Each of those little polygons, scarcely larger than a dime, in emphatic tones, proclaims time wasted, energies prostituted, temper tried, and labor worse than thrown away. Let it be regarded as a warning to parents who are responsible for the proper development and training of the mind and affections, and for the due growth and strengthening of each and every part of the physical being.

In the same apartment is a new gas light by Mr. Mace, of Springfield, Mass., which promises well. A passing view of it will not warrant us, however, in any wholesale commendation. We can only say it looks well and seems quite worthy of attention. The same idea is also applied by Mr. Mace to a portable gas lamp.

All the varieties of fancy work, in silk, linen, etc., silver wares, hair work, musical instruments, etc., etc., are here collected, and furnish opportunities for those fond of examining these departments of art.

MECHANICAL INVENTIONS.

This department is limited in extent, but excellent in its details. Some few of them demand a more extended notice than we can now give. Among these is the Improved Turbine, which is used very generally in the Lowell mills, and is of far greater value than the public generally seem to suppose. Some other matters should be described, did our space permit. We can give room, however, only to the following:

SOAP-STONE WORK.

We often see "marbles" of various sorts, and composed in fact, of all sorts of things, wrought into articles of furniture and utensils of various kinds. But we do not remember to have seen soap-stone wrought into so useful and tasteful forms as in the exhibition of Wm. H. Maine & Co., of Boston. A medal was awarded them at the Exhibition of the Massachusetts Mechanic Association, of 1856. Sinks, buckets, etc., etc., are "finished, complete in every part," in the language of the judges. We commend them to public attention.

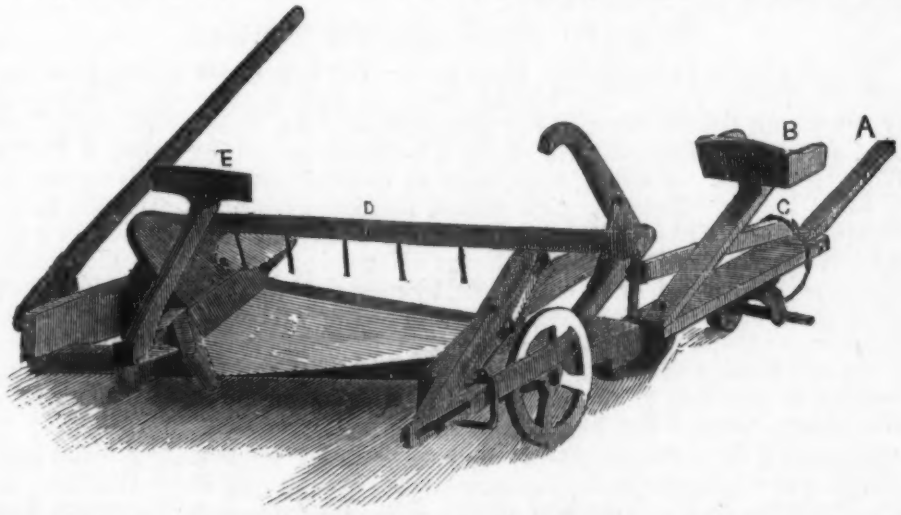
The Newburyport, Mass., Fisheries.

THERE are employed in the mackerel fishery of this city, fifty sail of vessels, with a total tonnage of 3,827 tons, valued at one hundred and twenty-five thousand dollars; the outfits for the same are upwards of thirty thousand dollars; the number of barrels used exceeds fifteen thousand; number of hogsheads of salt, twenty-five hundred; bait, two thousand barrels. This fleet employs six hundred men, to whom are disbursed some fifty thousand dollars.

The Labrador fleet, engaged in cod fishing, comprises ten vessels; aggregate tonnage, 1,200 tons, valued at twenty thousand dollars; outfits for the same, fifteen thousand dollars; number of hogsheads of salt used, two thousand; number of hands employed, 180; amount of disbursements, about fourteen thousand dollars. The population of the city is about 10,000.

Manny's New Mower and Reaper.

THE following engraving represents a new Mower and Reaper, invented by that hero in the conception and construction of agricultural machines, Pells Manny, of Freeport, Ill. We have not room now for a protracted description,



but will give it hereafter. There is a Reel, not shown in the engraving, the place of which will be obvious to those familiar with this implement.

Recent Patents,

[ISSUED FROM THE U. S. PATENT OFFICE, FROM AUGUST 28 TO SEPTEMBER 8, 1857.]

AGRICULTURAL.

Raking apparatus for harvesters, Israel Dodenhoff, Bloomington, Ill.—Hay and manure forks, Wm. Jones, Speedsville, N. Y.—Harvester, Pells Manny, Waddam's Grove, Ill. A new mode of constructing the fingers of the cutting apparatus and of securing them on the finger bar.—Fence for poultry yards, Wm. P. Thomas, Whitewater, Ind.—Rake for harvesters, J. W. Brokaw, assignor to Warder Brokaw and Child, Springfield, O.—Cultivator, C. H. Sayre, Utica, N. Y., assignor to himself and Samuel Remington, Ilion, N. Y. A combined horse hoe and double mould board plow.—Cutting corn stubble, John Ausparger, Trenton, O. A combination of teeth of a rake and rotating knives.—Rake, Andrew J. Blodgett, Newport, N. H.—Seeding machine, Charles W. Caohon. Brooklyn, N. Y.—Straw Cutter, Aury G. Coes, Worcester, Mass. So constructed that its bed and knife shall each operate with a compound motion produced by a lever, crank, fulcrum rod and guides.—Operating the cutters of Harvesters, James Haviland, Milton, N. Y. By means of a spirally grooved intermediate shaft, and a series of hemispherical or oval-headed teeth projecting from the face of the main bearing wheel.—Raking device for harvesters, Stephen R. Hunter, Cortland, N. Y.—Cotton seed Planter, Thomas J. Rogers, Cassville, Ga.—Attaching scythes to snaths, Oliver Clark, Henrietta, O.—Seed Planter, Cyrus C. Aldrich, Fairbault, Min. Ter.—Corn Planter, D. R. Alden, Unionville, O.—Same, H. R. Allen, Athens, O.—Corn Sheller, Andrew Dillman, Plainfield, Ill.—Seed Planter, J. W. Ells and James Charlton, Pittsburgh, Pa.—Mowing Machine, G. C. Dolph, West Andover, O.—Hand Seed Planter, Joel Haines, West Middlebury, O.—Straw Cutter, Porter Hill and C. E. Jones, Millport, N. Y. A combination of the rotating knife, or cutting disk, and a series of revolving chambers, arranged round a central shaft, in such manner that its revolutions shall bring the straw in each, successively, between the edge of the knife and the periphery of the chambers. There is also a new method of feeding the straw to the knife.—Corn Planter, D. W. Hughes, New-London, Mo.—Sheep-

shearing Machine, J. V. Jenkins, Jackson, Mich.—Scythe Snath, Abner H. Pinney, Columbus, O.—Churn, Daniel E. True, Lake Village, N. H.—Harvester, C. M. Lufkin, Ackworth, N. H., assignor to Norris Lufkin, Unity, N. H.—Cultivator Teeth, Edmund L. Freeman, Brownville, N. Y., assignor to himself and J. and G. Lord & Co., Watertown, N. Y.

Metallurgy and Manufacture of Metals.

Dressing saws, Philo Maltby, Dayton, O.—Bending metal plates, E. L. Gaylord, Terrysville, Conn. For bending metals at right angles.—Same, Julius Perry, Plymouth Hollow, Conn. For accomplishing the same point.—Metal buttons, Jared O. M. Ingersoll, Ithaca, N. Y.—Shears for cutting metal, T. F. Taft, Worcester, Mass. A rolling lever, upon an inclined plane, which is on the side or blade holder.—Twisting curb chains, Lauriston Towne, Providence, R. I.—Separating ore, Thos. J. Chubb, New-York. Effecting a separation of a thin layer of finely pulverized ore, into layers or strata of different specific gravity, upon a perforated bed, or its equivalent, by means of applying light, minute puffs of air up through the interstices of the said bed, and through a thin layer of ore, evenly spread, and resting thereon, for the purpose of gently agitating said layer of ore and floating the lightest substances therein to the top, and allowing the heaviest to gravitate to the bottom.—Pin sticking machine, Thaddeus Fowler, Waterbury, Conn.—Bending machine, Lewis Raymond, New-York. An arrangement of three rollers, convex and concave, for bending sheet metal transversely and longitudinally by one operation.—Setting saw teeth, Pearson Crosby, Fredonia, N. Y.—Vibrating shears, John Toulmin, New-Worcester, Mass. Hanging the movable blade of a pair of shears by two adjustible center pivots upon an adjustible pillar block.—Ore Separator, Thos. J. Chubb, New-York, an addition to the patent above described, perfecting the operation of the device there secured —Swedging hatchet heads, Levi Dodge, Cohoes, N. Y.—Planing saw teeth, John N. Wilkins, Waukegan, Ill. Two planers and cutters for shaping the edges of saw teeth.—Forging metals, Elbridge Wheeler, Feltonville, Mass.—Pipe coupling, E. Wright, Boston, Mass. A compressible packing ring, inserted in a groove round a pipe on each side of the joint in combination with screw threaded or flanged and bolted couplings, and a thimble for holding the packing rings in the grooves, so as to form a water light joint and resist separation.—Head Rest, Wm. M. McCauley, assignor to J. N. McIntire, Washington, D. C.—Casting bearings on water wheels, Chas. Taylor, Little Falls, N. Y.—Socket coupling for lathes, G. N. Trowbridge, Lowell, Mass.—Cutting figures out of sheet metal, C. P. S. Betts, New-York.—Improved wrench, H. M. Clark, New Britain, Conn.—Bolt for safes, Stuart Perry, Newport, N. Y. Combining a safety bolt with the lock of a bank, vault, etc., by means of a bar or trigger, so that the forcing of the lock by any means, from the door, shall trip or release the safety bolt and allow it to securely fasten or lock said door.—Lock, John P. Sherwood, Fort Edward, N. Y.—Door Spring, Edward P. Torrey and Wm. B. Tilton, New-York.—Padlock, Linus Yale, Newport, N. Y.—Sash Lock, William Patton, Towander, Pa.—Machine for forging nuts, Edward Pay and Samuel Hall, New-York.

Manufacture of Fibrous and Textile Substances.

Hoops for ladies' skirts, Charles S. Goodman, Washington, D. C.—Self-acting mules for spinning, George Wright, Grafton, Mass.—Wetting and cutting paper, Moses S. Beach, Brooklyn, N. Y.—Manufacturing hat bodies, Joseph Booth, Newark, N. J. A rotary flat hurdle, having its perforated surface divided, in combination with a picking or bowing apparatus, and air exhausting apparatus, also an arrangement of the fan-shaft upon the spindle of the revolving hurdle.—Umbrellas and Parasols, Sheldon Confield, Derby, Conn., the form and construction of the clasp.—Loom, Edwin A. Scholfield, Westerly, R. I. A driving or revolving cam or tappett wheel, which acts to spring the harness, or produce a shed in weaving, by an intermittent or variable motion, by the use of star gears.—Sewing Machine, Wm. Wickersham, Boston, which we shall notice hereafter.

—Same, Henry Behn, assignor to himself and Thos. Sewall, New-York. A method of looping by two pointed bars, one moving in a plane above the other, and so operating in combination with the needle, that the loop is formed and held open by bending the thread in opposite directions.—Same, Samuel Larkin, assignor to Wheeler & Wilson Manufacturing Co., Bridgeport, Ct. A spring brake.—Folding Paper, C. P. Wiggins, A. H. Nordyke, and Benj. Strawbridge, Richmond, Ind.—Spooling thread, Charles H. Bradford, Lynn, Mass. Sack fastener, Wm. P. and Jacob E. B. Maxson, Albion, Wis. A spring tongue, pressing the string against a side flange or projection.—Sewing Machine, Orson C. Phelps, Rochester, N. Y. Constructing the needle bar with a cap or helmet on its top, and a spring or elastic material interposed between the parts, for the purpose of giving a yielding bearing to the thread bolt, whereby a very fine thread may be used without breaking.—Carding Engines, H. N. Gambrill and S. F. Burgee, Woodbury, Ind. Delivering the cotton into the main cylinder always at two and sometimes at three different places, while using but one set of feeding rollers, etc.—Wash mixtures for woolens, etc., Wm. Reisig, Astoria, N. Y. A cheap aqueous solution, with alkali in excess.—Condenser for list speeders, Wm. Mattison, assignor to J. C. Whitin, Northbridge, Mass.

Chemical Processes, Manufactures, etc.

Telegraph Repeaters, J. E. Smith, Troy, N. Y.—Filter, Wm. W. Ayres, Worcester, Mass.—Glass Furnace, Samuel Richards, Philadelphia, Pa.—Spirit Still, Edward Herring, Walton-on-Thames, Eng.—Insulated telegraphic wires inclosed in metallic tubing, Samuel C. Bishop, New-York.—Manufacturing Verdigris, Ludwig Brumlen, Hoboken, N. J.—Gas Retorts, Sounders Coates, New-York. A false bottom of metal of different degrees of fusibility, as one of lead in combination with one of iron, resting upon the easily fusible metal.—Vapor Lamp, J. G. Gilbert, New-York.—Machines for punching paper fillets, for transmitting paper fillets, John P. Humaston, New-Haven, Conn.—Blast Furnace, Samuel Wilkes, Hammondville, O. The application of steam in blast furnaces at the boshes.—Saccharine Evaporators, Joseph Bour, Forbach, France, assignor to Charles Parlange, Parish of Point Cupee, La.

Calorifics, Including Lamps, Stoves, &c.

Coal sifters, Cyrus C. Aldrich, Faribault, Min. Ter.—Signals for steam-boats, Albert Potts, Philadelphia.—Extension Gas Tubes, Charles Monson, New-Haven, Conn.—Coal Sifter, William D. Brown, Weymouth, Mass.—Chimney Cap, Ira Mahew, Albion, Mich.—Gas Regulator, John H. Powers, Newark, N. J.—Lantern, J. S. A. Rohrman, Philadelphia, Pa.—Portable Gas generators, Warren A. Simmons, Boston, Mass.—Cooking Range, Samuel Pierce, Troy, N. Y.—Cupola Furnace, Philip W. Mackenzie, Jersey City, N. J.—Water vessel for hot air furnace, Wm. Moultrie, New-York.—Gas Regulator, John H. Cooper, Philadelphia, Pa.—Grate Bars, Edward Dugdale, Burlington, N. J.—Cooking Stove, Sidney Godley, Lockport, N. Y.—Baker for Cooking Stoves, P. P. Stewart, Troy, N. Y.—Hot Air Register, J. V. Tibbetts, New-York.

Steam and Gas Engines, &c.

Tube for steam pressure gauges, E. H. Ashcroft, Boston, Mass.—Metallic Packing for pistons of steam engines, G. H. Corliss, Providence, R. I.—Steam Pressure Regulator, Lucius F. Knowles, Warren, Mass.—Packing of Rotary Engines, Gerard Sickles, Brooklyn, N. Y.

Navigation and Maritime Implements.

Surf and Life-Boats, Richard C. Holmes, Cape May C. H., N. J.—Life preserving berths, Eldridge Foster, Hartford, Conn.—Attaching whiffle-trees to tow lines, Andrew Seaman, Amsterdam, N. Y.—Ships' Berths, Henry Getty, Brooklyn, N. Y.—Ships' Capstans, Charles E. Marwick, Portland, Me.

MATHEMATICAL, PHILOSOPHICAL, &c.

Eye Shading Apparatus, Francis H. Jones, Federalsburg, Md.

CIVIL ENGINEERING, ARCHITECTURE, &c.

Machine for ramming under the cross-ties of railroads, R. B. Harrison, Vicksburg, Miss.—Wiring Blind Rods, Byron Boardman, Norwich, Conn.—Drawing the curve of circular stair railways, Geo. S. Stewart, Meadville, Pa.—Suspending Eave's troughs, James A. Watrous, Green Spring, Ohio.—Moving stores, &c. in case of fire, Asa Blood, sen., Norfolk, Va., and Robert W. Brown, Washington, D. C.—Boring Machine, Emmett Quinn, Trenton, N. J.

LAND CONVEYANCE.

Reversible Railroad-car coupling, Joseph Boothroyd, Michigan City, Ind.—Tightening tires of carriage wheels, J. M. Dick, Buffalo, N. Y.—Automatic railroad car-brake, W. R. Jackson, Baltimore, Md.—Wear iron for carriages, I. Geo. Lefler, Philadelphia, Pa.—Thills, Philipe Baillau, New-York.—Hub for carriage wheels, Jas. W. Jackson and Luther W. Burchinal, Smithfield, Pa.—Adjusting Carriage Tops, C. W. Saladee, Columbus, O.—Railroad Car Brake, James Mitchell, Osceola, Iowa.—Railroad Rail, Edward W. Stephens, and Richard Jenkins, Covington, Ky.

HYDRAULICS AND PNEUMATICS.

Sealing Cans, Edwin Bennett, Baltimore, Md.—Locking faucets, Henry Getty, Brooklyn, N. Y.—Hermetically-sealing Cans, Wm. Borrman, Cincinnati, Ohio.

MECHANICAL POWERS.

Portable Horse Power, Daniel Woodbury, Rochester, N. Y.

MILLS AND MILL GEARING.

Winding Mill, William Stauffer, Middlebury, Ind.—Feed and Gigging for saw mills, Geo. D. Lund, Yonkers, N. Y.—Tubular Shafting, Zacharia Allen, Providence, R. I.

LUMBER, INCLUDING IMPLEMENTS, &c.

Mortising chisel, John A. Scroggs, Burlington, Vt.—Manufacturing Modern Washboards, L. B. Batcheller, assignor to West, Canfield & Co., Arlington, Vt.—Sawing Staves, Peter Deal, Amsterdam, N. Y., and James Greeman, Northampton, N. Y.—Saw Clamp, Leonard O. Fairbanks, Bridgeton, Me.—Sliding Rest for lathes, E. S. Gardiner, assignor to Smith, Gould & Co., Philadelphia.—Crozing and champering staves, H. L. McNish, assignor to D. C. Butler, and H. L. McNish, Lowell, Mass.—Piercing Blind slats, John Carpenter, Stonington, Conn.—Clamping Logs in sawing machines, Stephen Woodward, New-London, N. H.—Rotary Plaining cutters, H. H. Baker, Newmarket, N. J.

STONE, CLAY, GLASS, &c.

Brick Machine, Stephen Ustic, Philadelphia, Pa.—Same, P. S. Devlan, Reading, Pa.

LEATHER, TANNING, &c.

Machine for lasting boots and shoes, John Kemball, Boston, Mass.—Pegging boots and shoes, Seth D. Tripp, Winchester, Mass., assignor to himself and Luther Hill, Stoneham, Mass.—Boot Crimp, William W. Wilmot, assignor to himself, Amos H. and Charles H. Brainard, Boston, Mass.—Tanning Liquid, Leo de la Peyrouse, Paris, France, assignor to Michael J. A. Guiet, New-York.

HOUSEHOLD FURNITURE, &c.

Washing Machine, Philip N. Woliston, Springfield, O.—Shower-bath apparatus, Wm. Meyer, Progress, N. J.—Smoothing-iron, Wm. F. Shaw, Boston, Mass. A new mode of constructing the iron with ascending and descending flues, so as to heat it more effectually and conveniently by gas.—Washing Machine, Hiram F. Everett, Benton, Pa.—Self-waiting table, William B. Farrar and Jonathan H. Farrar, Evans' Mills, N. C. A table with a central revolving top.—Washing Machine, Wm. M. Hammond, Jonesville, Mich.—Same, Justin Loomis, De Ruyter,

N. Y.—Same, Isaac A. Sargent, Springfield, Ohio.—Same, Abram Wood, Camden, N. Y.

ARTS POLITE, ORNAMENTAL, &c.

Photogalvanographic Printing, Paul Pretsch, Austria.—Inkstand, Thomas Rotjohn, New-York.—Watch-key Finger-ring, Elihu Bliss, Newark, N. J.

FIRE ARMS, &c.

Cartridges for breech-loading fire-arms, J. D. Greene, Cambridge, Mass.—Percussion cap primer, Geo. W. Baker, Burlington, Vt.—Projectile for rifled cannon, Theodore T. S. Laidley, U. S. Army.—Percussion Powder, Magnus Kling, Reading, Pa.

MISCELLANEOUS.

Machine for drying grain, etc., Christian Custer, Philadelphia.—Attaching wires to bell telegraphs, Henry Hochstrasser, Philadelphia, Pa.—Washing bottles, Henry N. Degraw, Watervleit, N. Y.—Animal Trap, George Hart, Granger, Ohio.—Rendering trunks water-tight, Chas. A. Hinckley, Stonington, Conn.

Recent Foreign Inventions.

Improved Union Gas Stove for Lighting and Heating.

BY GEO. NEALL, Northampton, Eng.

WE have already given our readers to understand that we regard this as one of the few *great points*, which, when it is fairly brought out, will be one of the grand discoveries of the age. Light and heat, by artificial means, are two of the absolute necessities, and in a sense, the highest luxuries to be offered any community. We present the following description of Mr. Neall's invention, as promising something in itself, but as of still greater value as a suggestion to be improved upon. It combines, as will be seen, the stove and the lamp, warming and lighting by the same apparatus.

Fig. 1

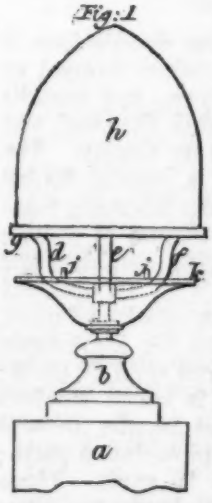


Fig. 1 represents the apparatus as resting on a pedestal. The gas is supposed to be carried up through the center of the pedestal, *a*, and through the base or stand of the stove, *b*, and through the radial arms, partly shown in dotted lines, *d*, *e*, *f*; and to these arms (which may be of any convenient number) the circular rim, *g*, *g*, is attached, around the outside of which a slight fence or rim is formed, which may be pierced or raised in any ornamental pattern or suitable design, and within this rim or fence the glass dome, *h*, rests. The burners *j*, *j*, are fixed perpendicularly to the radial arms, or they may be inclined inwardly, if desired. In some convenient place, at or near the stove, it is necessary to have a stop-cock for regulating the supply of gas; the necessity of this will be hereafter referred to. The shape of the dome may be varied, but the form herein exhibited is preferred; and must be made without any openings or apertures otherwise than at its base; and, as a rule, the dome should be ground or deadened on the outside, which will tend to soften the effect of the light, and at the same time allow of its being painted, stained, cut, or otherwise ornamented.

Fig. 2.

In lighting this union stove and lamp it is necessary, as a precaution, to turn on at first but a little gas, (which may be regulated by means of the stop-cock above referred to,) and to light all the jets as simultaneously as possible. The small quantity of gas at first lighted will have the effect of gradually and uniformly heating the dome, and that done, the gas may be further turned or increased, as required. This heating of the dome is effected by the then rarified and heated state of the air

within it, which has no way of escaping but by being forced down by the continuous supply that is constantly rushing in around the burners supporting the flames, and ascending to the center of the dome, there distributing itself, and descending close to its interior surface, and escaping beneath the rim, *g*, *g*; thus there is a continuous stream of heated air continually pouring out underneath the rim of the dome, and diffusing itself around the apartment; and at the same time that light is emitted through the dome, heat is also thrown off from the surface of the dome by radiation.

This union stove and lamp may be constructed with or without the reflector, marked *k*, *k*; but when that is used, the light is thrown down and diffused around the floor of the apartment; and this reflector being roughened, ground, or deadened on its under side, may, like the dome, be painted, stained, cut, or otherwise ornamented.

The same description of gas stove or lamp may be applied to a bracket support, suitable for being placed around galleries or walls of churches, chapels, or such like buildings, where light and heat are required to be generally diffused. The gas in this instance is conducted through a tube constructed or applied to the bracket, and thence to the burners; and around the rim that supports the dome, glass drops or prisms are suspended, and merely introduced here by way of ornaments.

Fig. 2 represents a plain view of the rim, radial supports, and burners, *j*, *j*; the eccentric circle, *k*, *k*, representing the glass dish or reflector.

The union stove and lamp may also be adapted so as to be suspended from the ceiling, and may or may not be fitted with a slide and compensating or balance weights.

Improvements in the Manufacture of Artificial Stone, etc.

By Frederick Ransome, Ipswich, Eng.

The discoveries of Hardinge in this country, and of scientific men in England, promise much for the next generation, in the economical preparation of building stone, not inferior to any natural rock, and nearly or quite as cheap as bricks now are. Mr. Ransome is doing much in this direction.

This invention, as now made known, is applicable to those descriptions of artificial stone which are compounded with sand, clay, and other mineral or earthy substances, together with soluble silica or a soluble silicate; and consists in adding thereto a substance which will fuse more readily than the sand, and will run into and fill the pores of the stone, and thus increase its density. The substances preferred for this purpose are pumice-stone, or a readily fusible glass. When pumice-stone is employed, it is prepared in the following manner: Take finely-powdered pumice-stone and mix it with a solution of soluble silica, sp. gr. (1·700,) so as to form a stiff paste capable of being moulded, and mould it into balls of about one inch in diameter, and fuse it in an ordinary crucible. When fused, grind it in to a powder and mix with it a solution of silica, so as again to form a paste. In preparing the artificial stone the ingredients are mixed with the following proportions, by measure: Siliceous sand 30 parts; finely-powdered silica, 10 parts; solution of silica, or what is called silicious cement, described in the specification of a patent granted to the present patentee, 22d October, 1844, 5 parts, sp. gr. 1·700; powdered pipe-clay, 5 parts; and pumice-stone, prepared in the way above described, 5 to 10 parts. These materials are mixed together and treated in the way described in the specification above referred to, and which is now well understood. When a readily fusible glass is employed in the manufacture of artificial stone, the glass is prepared by fusing together, in a reverberatory furnace or crucible, the following materials: Silicate of soda, 100 parts, sp. gr. 1·400; oxide of lead, 100 parts. And in preparing artificial stone, for the 5 to 10 parts of the prepared fusible glass, is substituted 5 to 10 parts of the pumice-stone in the mixture before mentioned.

This invention also consists in a method of rendering artificial or natural

stone, bricks, and other materials used for building purposes, less liable to decay. For this purpose the stone or other material is coated or saturated wholly or superficially with a solution of soluble silicate, and has afterwards applied to it a solution of chloride of calcium, by which an insoluble silicate of lime is formed in the body of the stone or other material. In place of a soluble silicate and chloride of calcium, other preparations may be used; the invention consists in the application, in succession, of two solutions, which, by mutual decomposition, produce an insoluble substance, which is deposited in the structure, and on to the surface of the stone or other material. When a soluble silicate is employed, the patentee takes a solution of silicate of soda or potash (the sp. gr. of which must depend upon the texture of the stone to be operated upon, but generally about the sp. gr. of 1·400 at ordinary temperatures,) and after having removed from the stone, etc., as much extraneous matter as is convenient, the solution is applied over the surface of the stone or other material, with a brush or otherwise, until it has absorbed a sufficiency. A solution of chloride of calcium is immediately, or as soon after as convenient, applied—taking care to incorporate the two solutions as much as possible by means of a brush or otherwise. By this application the silica combines with the lime, forming silicate of lime in the pores and on the surface of the stone or other material, whilst the chloride, combining with the soda or potash, forming chloride of sodium or potassium, is readily removed by washing. When the stone or other material is of a very porous nature, the strength of the silicate solution may be increased, and one coating will be sufficient; but if, on the other hand, the stone or other material is very slightly porous, then the strength of the silicate solution should be reduced, and several coats should be laid on. Or, for some descriptions of stone, more particularly sandstones or freestones, a saturated solution of sulphate of alumina instead of the silicate of soda or potash is preferred, followed by a solution of baryta; by which means a compound precipitate of alumina and baryta is produced. Where convenient, instead of applying the solutions by means of a brush, the stone or other material may be immersed in the several solutions. When desired, the precipitates can be colored to any tint to suit the stone or other material, by means of soluble salts of chrome or iron mixed with the solutions employed.

Improvement in Dyeing.

By Frederic Albert Gatty, Lancashire, Eng.

This invention consists in the use of nitrate of soda, sulphate of soda, chloride of sodium, sulphate of magnesia, sulphate of lime, and chloride of calcium in dyeing cotton with logwood, quercitron bark, Sapan wood, peach wood, Lima wood, and other dye woods of the same description.

In carrying out this invention, it is found that one pound of either of the above-named salts, or a mixture of two or more of them, placed in the vat with fifteen pounds of any of the above-named dye materials, produces a good result; the quantity of the salt may, however, be varied, as an excess produces no bad effect. Instead of mixing the said salts with the dye materials in the vat, as described above, they may be previously mixed with the dye materials. The process of dyeing is carried on in the ordinary manner.

Improvement in the Manufacture of Wire Ropes.

By John Fowler, Havering, Essex, Eng.

In the manufacture of wire ropes, instead of having all the wires which are around the central core of one size or diameter as heretofore, and in place of all the wires being of iron, one of the wires in each strand is of larger size or diameter than the others, and this larger wire in each strand is made of steel; hence each strand of wire will have a spiral ridge around it, and when such strands are laid together, the projecting ridges of the strands which are outwards rest on or against any surface on which the rope is moved, and the steel projecting wires are the ones which are first worn away.

The patentee says: "I have found that about three sizes larger is a conve-

nient size for the larger wires, though I do not confine myself thereto, as the size may be varied; and I make such larger wires by preference of steel, in order that they may wear better and longer, and preserve the others from wear."

Patent Manure for Vines, etc.

By Anne Marie Macé, Paris.

Madam Macé is the widow of Georges Fremont, late of Rue des Collonnes, and is the patentee of what is called "Fremont's Manure." The "invention" consists in employing the ashes of wood and charcoal, or coal cinders, or other similar ashes, combined with human urine, in equal proportions by measure.

The use and purpose of such compost is similar to that of any other artificial manure. For vines, it is only requisite to apply to the foot of each stock a compound of about two pints of ashes and two pints of urine. For tilling land the quantity to be used may differ, according to the quality of the soil to be operated upon, but the mixture must be in the proportions, or about the proportions, before named. Such manure destroys a quantity of insects noxious to the products of the soil, and greatly improves the lands submitted to its action.

Transmitting Signals by Musical Sounds.

The *France Musicale* gives an interesting account of experiments made in presence of the Emperor of the French when at Plombières, to test the efficiency of M. Sudre's plan for transmitting signals to the troops of an army or navy by means of musical sounds. During the Emperor's stay, M. Sudre, the inventor of what is called *telephonie*, or the art of transmitting signals and phrases by sound, had, with his wife, the honor of exhibiting before his Majesty. Placing himself in the middle of the saloon, he announced that he would, with his violin, express any phrase his Majesty might please to dictate to him, in such a manner as to enable Mme. Sudre, who was seated at the further end of the room, among a group of ladies, to say what it meant. The Emperor immediately wrote on a piece of paper the words: "*Le premier qui fut roi fut un soldat heureux*," and M. Sudre produced a few sounds from his violin. Mme. Sudre immediately rose and repeated the phrase word for word. Another experiment was then made—it consisted in speaking the notes instead of playing them. The Emperor wrote, "*Plombieres est une ville charmante ce soir*," and M. Sudre, after reading the phrase, pronounced, without any intonation of voice, certain notes. Mme. Sudre at once gave the words correctly. Experiments in *telephonie* were made. M. Sudre's system reduces the transmission of signals to three sounds expressed by the trumpet, the drum, or the cannon; or, in the event of high winds preventing sounds from being heard, to three signs. The Emperor gave the order, "Construct batteries on the height," and M. Sudre produced three sounds on the clarion; Mme. Sudre at once repeated the phrase. Another order, given by General Espinasse, was repeated by the drum, and translated instantaneously by the lady. The order, "Let the artillery paralyze the fire of the enemy's battery," was transmitted by taps on the table, to imitate cannon, and was in like manner at once repeated by Mme. Sudre. The Emperor asked if proper names and the names of towns could be transmitted by the system, and being answered in the affirmative, wrote the name of Nabuchodonosor; some sounds from the trumpet enabled Mme. Sudre to repeat the name aloud. The Emperor expressed his satisfaction at what he had witnessed. He then graciously invited Mme. Sudre to sing one or two *morceaux*, after which his Majesty dismissed her and her husband with marks of his munificence.

Letters Patent.

We have made arrangements with one of the most experienced and able of the late examiners in the Patent Office, at Washington, for the transaction of any business, in that line, committed to us, and we invite all who would apply for patents to communicate with us. The business shall be done promptly and well.

THE FAMILY CIRCLE.

Scientific.

Chemistry for the Million.

HAVING before given the names and a brief description of the more abundant elements in nature, the compound resulting from these will next claim our attention. The figures prefixed denote the proportions of each ingredient and of the compound Thus, read the first;—8 lbs. of oxygen, combined with 1 lb. of hydrogen, form 9 lbs. of water; and so the others, putting "combined with" after the first word in each line, and the word "form" after the second.

8 OXYGEN 1 HYDROGEN 9 WATER.

Water with other substances forms *hydrates*, as hydrates of lime, of iron, etc.

16 OXYGEN 6 CARBON 22 CARBONIC ACID.

Carbonic acid forms Carbonates, as Carbonate of Lime, (chalk, marble, lime-stone,) Carbonate of Soda (washing soda,) bi-carbonate of soda, (cooking soda) etc.

14 NITROGEN 3 HYDROGEN 17 AMMONIA.

The three compounds above, water, carbonic acid, and ammonia constitute a very large part of the food of all growing plants. Nothing could grow if deprived of either of them. Decaying plants and animals are always giving them off; and living, growing plants are always receiving them.

USES OF WATER IN AGRICULTURE.

THE influence of water on rocks, soils, manures—whatever goes to make up the seed bed and standing place of plants—is prodigious.

1, *Water is the principal agent in the reduction of rocks to soil. Without it we can hardly suppose that soil would ever have been formed.* The whole surface of the earth, but for its agencies, must have presented, at this moment, one unbroken mass of rock, with not even a lichen or the smallest stem of moss to variegate its surface. It is water, by its expansion in freezing, that has split the rocks. By freezing in large quantity it has removed the cleft fragments from their beds, and often rolled them down mountain sides, grinding them and other rocks in their fall to powder. By the freezing of water, icebergs have carried large and small fragments thousands of miles; and glaciers have rounded them into boulders, or ground them into minute particles. Running streams have carried down the pulverized rock to form our fine alluvial soils; and standing waters, as oceans, seas and lakes, receiving the fine sediment of streams, have deposited it in the form of outstretched plains or rolling prairies. Large portions of the Gulf of Mexico probably would need but to be upheaved, as other portions of the globe undoubtedly have been, to afford as beautiful plains and prairies as any of our Western States, made up of materials transported by the agency of water from large portions of North and South America, and enriched by myriads of plants and animals that have perished and left their remains mingled with the soil.

2. *The agency of water is constantly improving soils mechanically,* Probably no change, from wet to dry, or the reverse, takes place without meliorating the soil. It is the opinion of observing farmers that some drouths even are followed by good effects; that excessive rains—what we call excessive, perhaps only from ignorance of what we need—are beneficial also; and that for the damage of both we are more than repaid in the after influences on the soil. But however this may be,

whether these extremes are essential to the best influences of water on the soil or not, it is certain that the freezing and thawing process is of vast benefit. Investigations go to show that the fineness of a soil is among its best qualities. Some have gone so far as to say that it matters little what a soil consists of, if it is sufficiently fine; that the New-England granite soils, if as fine as those of the Ohio valley, would be as good. This may seem extravagant, and probably is so, yet all will agree that fineness is a most important quality. Now a December frost, stiffening the ground for eight, twelve, sixteen inches deep, is a silent, quiet operation, but it is one in which an immense mechanical power is exerted. By reason of the expansion of water at the point of freezing, particle is made to impinge against particle, by a slow but irresistible movement, both held as in a vice, and pressed against each other, till probably more particles in an acre of soil are broken up and divided into two, five, or a dozen, than could be effected by the labor of a score of men in a whole summer. Clay soils are rendered less adhesive, and coarse soils (not made up too much of mere silicious sand, that holds no water,) are rendered finer by freezing. Throwing them into ridges in autumn to give the frost greater access, is beneficial.

3. *Water improves the soil chemically—manures it.* Exhalations from the sea, from lakes, rivers and ponds, from decaying animal and vegetable matter wherever found, affluvia from cities, from barn yards and pig-styes, and light, downy particles of solid matter from thousands of sources, are always ascending into the atmosphere. The air is the great receptacle of the world's filth. None of us could live long in cities if it did not lift our bad odors. But the air itself becomes filthy by the operation. It wants washing. It contains, at times, over such a territory as ours, millions upon millions of loads of what we may call manure, because it is made up of the very ingredients which promote plant growth. Water, in the form of rain, washes this out, and brings it back to the soil, where it is wanted. Every drop of rain deposits in the soil ammonia, carbonic acid, various organic and some inorganic matters, embracing probably every ingredient required by the growing plant. It is the same with snow. That snow is the poor man's manure, is no fiction. It is the rich man's also. Neither could thrive but for what the air takes away from cities and towns, sea and land, and the rains and snows bring back and deposit in the fields.

4. *Water preserves manures.* All ammoniacal manures, as those of the stable, the field, the pen, the barn yard, tend to ferment; and if the weather is warm and they are not sufficiently moist, they fire-fang, as the farmers say. The expression is a good one. But what is it to fire-fang? It is to ferment too violently, to become very hot, to evaporate nearly all the water in a manure heap, and to send off its ammonia into that vast recepticle of the atmosphere, not to be lost from the world, but to be brought back, as before explained, in the rain and snow, some of it perchance on the owner's land, but more on other farms within a few thousand miles of him. It is the province of water to prevent this violent, wasteful fermentation, which scatters from one tenth to four or five tenths of the value over the wide world, in the state of invisible gases, and makes it common instead of private property.

5. *Water enables light soils to retain the manure put upon them.* Perhaps a strong clay soil would retain the manure commingled with it without the aid of water. A substantial loam might to considerable extent. But a sandy soil (and, by the way, sandy soils are about as *profitable*, not as *productive*, not equally *capable*, but about as POFITABLE, considering their feasibility, as any others) is not sufficiently retentive to hold the manure till such time as the plants appropriate it to their own

growth, without the aid of water. If we could be assured beforehand of a smart rain twice a week for a whole year, it might be good policy to apply 30 loads of manure to a sandy acre and plant corn. So many rains would hold the manure down—keep it in the soil, instead of letting it go into the air—so that the current crop would appropriate largely from it, and leave the rest for future crops; whereas, in an ordinary season, we should expect less to go into the present crop, little to be left in the soil, and much to go in the form of ammonia and carbonic acid, into the air, to be returned in future rains, as much for the benefit of others' crops as of our own. So much as went into the air would become public property. We suppose that the man who applies 30 loads of manure, in a green state, not composted, to a sandy acre, before one of our hot dry summers, contributes some ten dollars worth to the general productiveness of that region—a tax which the public need not find fault with, but which he would be slow to pay if he knew what he was about.

6. *Water conveys plant food from place to place in the soil.* Liebig says not. "The smallest particles of nutriment do not change their place in the ground while the soil retains them," is his language. Ploughing, harrowing, mixing the soil mechanically are, according to him, the only means of equalizing the nutriment throughout the soil. We are sorry to differ with so great an authority. But as with some German preachers, whose philosophy is better than their common sense, so we think his chemistry is better than his philosophy or common sense either. He reasons, as we understand him, that because, if you pass brown water from the barn yard through a few inches of earth, it comes out pure enough to cook one's breakfast in, therefore no plant food—that which constitutes the impurity of the water—moves from place to place in the ground. We would ask him whether he would drink the brown water when he had passed it through one inch of soil. If he says no, we have the case; for if the plant food, alias the impurities of the water, pass through one inch, then they move in the soil with the water, and that is all we claim. With Liebig we believe in ploughing, harrowing, lifting, stirring, mixing the soil. It can hardly be done too much. But we believe that nature co-works with the farmer at every step; that the falling rain helps him to an equal diffusion of his manures through the seed bed; and that the agency of water is of immense value, not only in equalizing the plant food in the soil, but in carrying it (short distances of course, and the stronger the soil the shorter the distance) to meet the roots of plants.

What we have said thus far of the uses of water in agriculture, relates to its agencies in the formation of soils and the preparation of soils and manures to become a fit seed bed and standing place for plants. Of its agencies in the germination of seeds, in conveying food for the growth of plants, and in bringing them to maturity, we will speak in our next.

The Salt Works at Syracuse.

Your readers may be pleased to learn something about the Salt Works at Syracuse. From many years residence near them I will venture to say a few words in regard to them.

The salt-blocks, as they are called, are principally located at Salina, (from *saline*,) Syracuse and Geddes, but there are several large blocks at Liverpool, a village four miles distant from Syracuse. The solar evaporating vats are spread over a large district, and occupy, perhaps, over 300 acres of land. The land is reserved by the State for constructing the vats upon. The season being an unusually wet one in this vicin-

ity, not much solar salt will be made. It requires a good deal of sunshine to make solar salt successfully, and the vats should be thoroughly made in order to hold all the water safely. These vats, to which we have alluded, are so arranged that the covers can be removed at any time in a few moments, and replaced as soon. In case of a heavy thunder shower the covers are all shoved over the vats, and in this way no rain water is admitted into them. The solar salt is very nice for salting butter. It is usually prepared for this purpose by grinding in salt-mills, which do a driving business in putting up "fine salt" in small "shilling bags." This solar salt is usually crystalized, and assumes many queer shapes.

The number of salt-blocks about and in Syracuse is about 305. Each block makes about 20,000 bushels of salt annually. From this amount to each block, you can easily calculate that there are nearly 6,000,000 of bushels of salt manufactured at Syracuse every year. Some of the blocks fall short of 20,000 bushels, but the solar evaporating vats make up the amount.

The expense of keeping the different works in water is immense. The water is supplied by the State, and is carried to a large reservoir by huge pump-logs bored out for the purpose. There must be many miles of these pump-logs, for they reach over a large territory. The salt water is conducted from the springs to a certain elevation by force pumps, and then goes into the reservoirs.

The amount of wood that is consumed annually is immense. Wood is getting to be a scarce commodity here, and demands now at the works from $3 50 to $5 50 per cord, according to the kind, hard or soft wood. The kettles in the blocks are placed in long arches, from 20 to 30 kettles occupying each arch. The front kettles boil salt down the fastest and the hindermost ones boil more moderately.

The "bitterns," as the sediment is called, is thrown out of the kettles, and may be seen in large quantities near the blocks. Some farmers make use of this substance to put on their lands. I have no experience in its use.

The salt blocks are rough looking buildings, and will last a great number of years on account of being pretty well saturated with salt. They present a queer appearance to the stranger, and I should judge emit about as much smoke and vapor as the volcanoes of Italy.

When the salt business first started at Salina, some fifty or sixty years ago, wood was very abundant immediately in the vicinity of the works, but now is principally boated into the city by scows and wood-boats. It is carried from the banks of the Oswego, Oneida, and Seneca rivers, and from the Erie and Oswego canals. Some of it is boated at least forty miles.

The experiment of burning coal in the arches has, I believe, proven a failure. It burns the grates out too often, and there are other objections to its use which I can not now make a note of.

"The City of Conventions" (Syracuse) owes its growth and prosperity to the manufacture of salt within its corporate limits. At one period, where the city now stands, the land was a dense cedar swamp almost impenetrable from any quarter; but now the country assumes a different aspect, and is noted for its garden products. So how easy it is to see what changes these salt springs have made in this growing city.

There has been a good deal of dispute with respect to the qualities of the Onondaga salt compared with that coming from Turk's Island. I am of the opinion that the Syracuse salt is as good for all purposes as any now in use, but may be prejudiced in its favor. When it is made right, it is an excellent salt, and meets the approbation of the butter-making community generally. A great many thousand barrels are shipped annually to the west by the "Salt Company," the said company binding its members to give to the manufacturer so much per barrel at the works. The "Salt Company"

receive a certain per centage upon each barrel sold, but advance the money to the manufacturers previous to removing the salt from the blocks, or, at least, the money is paid in due season. There was a surplus on hand last season which was not disposed of until this year. It is presumed all the salt will be sold in the course of the coming winter.

I will conclude this article by merely stating that all efforts at boring for the main body of salt have proven failures. Large sums of money have been expended in this direction. It would seem that the great deposit does not lie in this vicinity. There must be some great subterranean passage by which the salt water finds its way into the valley of the Onondaga lake, and therefore centuries may pass away ere the greatfountain of salt is found. Yours, etc., W. TAPPAN.

BALDWINSVILLE, N. Y., Sept.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN AUGUST, 1857.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-Yrok and Erie Railroad.

Aug.	6 A.M.	1 P.M.	9 P.M.			REMARKS.
1	62	84	61	S.&N.	Cloudy.	Sprinkle of rain in afternoon from north.
2	55	81	58	North	"	
3	53	88	62	"	"	
4	55	89	68	"	"	Light rain in the evening.
5	65	68	58	"	"	
6	57	82	58	West	"	Fog in the morning.
7	56	87	63	S. W.	"	
8	61	91	68	S.East	"	Shower went south at 6 P.M. Lightning in evening. Hard shower 11 P.M.
9	64	84	61	North	"	Oats ripe.
10	60	74	62	South	"	Light sprinkle of rain during the day. Hard
11	61	77	56	North	"	rain in the evening.
12	49	81	65	S.East	"	Fall cricket first heard in the evening.
13	59	90	70	S. W.	"	Few drops of rain in the morning.
14	68	92	78	West	"	Light sprinkle in the afternoon.
15	65	79	59	North	"	Light sprinkle at 11 A.M.
16	57	76	60	N. W.	"	Corn in the field large enough for eating.
17	62	84	60	S.East	"	Light rain before light; short shower at sun-
18	58	72	54	N. E.	"	[rise; two hard showers in P.M.
19	51	79	60	S.&N.	"	Light rain in afternoon; hard rain in evening.
20	51	73	51	North	"	Potatoes found to be rotting very fast.
21	45	79	52	South	"	
22	51	70	60	"	"	Light sprinkle of rain in P.M. Hard S. wind.
23	56	72	57	East	"	Light rain before light; number of squalls in
24	54	68	45	North	"	Light drizzling rain at sunrise. [P.M.
25	41	79	54	"	"	Harvest apples about ripe.
26	44	81	57	South	"	[and evening.
27	65	72	62	"	"	Light mist of rain in A.M. Hard rain in P.M.
28	65	80	59	"	"	Hard rain all night. Light sprinkle in morn-
29	64	73	55	North	"	Light shower in the afternoon. [ing.
30	55	70	50	"	"	Wild blackberries generally ripe.
31	45	80	58	West	"	

Christianity and Science.

PROFESSOR Joseph Henry, the distinguished head of the Smithsonian Institute, testifies that he knows but one man among the scientific men of the United States who is an infidel.

Domestic.

Chinese Sugar-Cane in Massachusetts.

JOEL LAKE, the Topsfield nurseryman, has sent the juice of the sugar-cane, of this year's growth, to the Boston *Journal* office. The seed was planted June 1st, and the stocks are now thirteen feet high. There is considerable of the cane growing along the upper route to Boston, in Topsfield and Danvers, and it has done better there than here. The best that we have heard of in this city was planted in May and is not yet eleven feet high. The yielding of the sap, in Mr. Lake's experiments, is 1200 gallons to the acre, and he reduced it to 100 gallons of syrup. The experimenters are becoming more confident that this cane will be a profitable crop. It stands drought and frost better than corn. We notice that several hundred barrels of this molasses has already been received at New-Orleans, and it may be possible that in these parts it will not be less profitable than the maple groves.—*Newburyport Herald.*

Fresh Milk.

THE *Journal of Commerce* mentions a new discovery of Gail Borden—who has become somewhat distinguished for his various inventions for the preservation of human food—by which families in cities can be supplied with the pure article, without the adulteration of chalk or other admixtures. This fluid also suffers no deterioration from a long voyage.

Mr. Borden's process is simple. It evaporates 750 of the 840 parts of water in all milk, as determined by chemistry, and leaves as a residuum, a thick paste, which can at any time be reconverted into milk by restoring the water. One tea-spoonful of the condensed substance to four of pure water will make rich country milk, precisely as it comes from the cow, while one to five will produce a richer compound than is often sold in cities. The addition of one or two parts of water makes a rich cream.

Mr. Borden has established a condenser (capable of reducing five thousand quarts per day) in Litchfield county, one of the richest grazing districts in Connecticut, where the unadulterated article can be bought for two cents a quart. The heat is applied under a covered kettle, from which the air is exhausted and the water is thus evaporated. The remainder is brought to market. It will be sold in New-York at about 32 cents a quart. This will bring the cost, when restored, by the addition of four times its bulk of water, to sixpence a quart. If any one wishes to use *cheaper* milk, he has only to add another quart of water. The milk trade of New-York is stated by the *Journal* to amount to over $4,000,000 per year. That of Boston must exceed $1,000,000 per year; and if Mr Borden's invention will really accomplish what is contended for it, it is of no slight importance to housekeepers in this city.

Soup, Beef Tea, Mutton Broth, etc.

IN the preparation of these, our object is the reverse of that which has been previously considered. We desire to take the nutritive and savory principles out of the meat, to a liquid extract of meat, in the form of soup, broth, or tea, the flesh is finely chopped and placed in cold water, which is then slowly heated and kept boiling for a few minutes, when it is strained and pressed. In this manner we obtain the very strongest and best flavored soup which can be made from flesh. Liebig says, "When one pound of lean beef, free of fat, and separated from the bones, in the finely-divided state in which it is used for beef-sausages or mince meat is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and fibrin, now become hard and horny, we obtain an equal weight of the most aromatic soup, of such strength as can not be obtained, even by boiling for hours, from a piece of flesh." To make the best article it is desirable not to boil it long, as the effect is to coagulate and render insoluble that which was extracted by cold water, and which should have remained dissolved in the soup. It is obvious, from what has been said, that a piece of meat introduced undivided into boiling water merely thickens and apparently enriches the soup. This is effected by the gelatin, which is gradually extracted from the tissues, bones and other parts, but in a

nutritive point of view, this ingredient is a fiction, as will be shown in the proper place. Soup-making is a kind of analysis of alimentary substances used in its preparation—a part is taken and a residue usually rejected. Yet it is clear that we shall have the completest nourishment by taking both parts, as the fibre of meat and the softened beans and peas of their respective soups.

Preserving Green Corn for Winter Use.

One of the greatest luxuries of the table, both in summer and winter, is the sugar or sweet corn. To our taste all other varieties of corn to eat green, are worthless compared with it. Our method is to keep a constant supply, by successive plantings, from June to the period of frost, making the largest planting about the first of July, with an early variety, for drying for winter. This matures usually in September, which is the best season for drying. Our method is this:—When there is promise of a fair day, early in the morning the corn is gathered—such only as is well filled. It is then husked, put into boiling water, and allowed to remain eight or ten minutes. It is then taken out and immediately cut from the cobs with a sharp knife, and spread on a clean sheet upon a roof or scaffold inclining to the south. It should be stirred once or twice during the day, and by night it will become so dry as to be past danger of injury. It should be covered during the night to keep off the dew, and exposed again for two or three days to the sun, when, if the weather is fair, it will usually be perfectly dry, and may then be put into a keg and headed tight, or hung up in a firm linen bag for use.

We have recently eaten corn of the common kind, preserved by a new and easier method, which seemed to be as tender, with all the sweetness and freshness of flavor that it had when first gathered, and may answer equally well in preserving the sweet corn, which we regard as the only variety worth preserving.

It is simply gathered and boiled in the usual manner, fit for the table. It is then cut from the cob and packed in a tight keg or jar, (wood is said to be best,) in alternate layers of salt sufficient to preserve it. Some, in the place of salt, apply a strong brine. When wanted for use, it is soaked in fair water, which must be changed, to remove the excess of salt, and then boiled, adding butter or cream and a little sugar to suit the taste.—*Louisville Journal.*

Lightning Rods for Shipping.

An invention of Dr. Cushman, of Wisconsin; being made of four copper wires, by a new process which we are not familiar enough with to explain. The conductor has the appearance of a rope, being put in such form by machinery got up for that purpose, which presses or compacts the wires into form, making a beautiful rope, which is intended to be a permanent conductor, forming a backstay or a part of the rigging, passing into a copper plate, which is attached to the ship or vessel in such a manner that it is entirely out of the way; the rope having sufficient power of expansion and contraction to render it pliable and easy to the vessel; the plates being attached in such a way as to be at all times in contact with the water, thus making an unbroken conductor from the top of the mast to the water, being a cheap and reliable protection. Every vessel of any importance upon our lakes should have one or more of them. The different insurance companies would do well to attend to this matter.

Smith & Co. are the manufacturers of this new rope, who have a house at Cleveland, Chicago, Waukegan, Ill.; and Racina, Wis.—*Western Paper.*

Vermont Horses in the West.

In our report of the State Fair it will be seen that Chas. Semple, of St. Louis, took with him to his western home, a stallion and a pair of matched mares. The number and value of horses annually sent to the Western States would surprise one unacquainted with the extent of these transactions.

Dr. Richard F. Barrett, of St. Louis, who has been boarding at the Lawrence Water Cure in this village for a few months past, recently shipped for that city *eleven* valuable Morgan mares, all animals of the best blood and action. They will make a desirable acquisition to the stock of that region.—*Vermont Phœnix.*

Love of God.

It has been beautifully said that man's love to God is only an echo called forth by the divine voice. "We love him because he first loved us."

Healthy Food.

In regard to diet, a plentiful use of ripe fruit should be indulged in. Every family should have the table constantly supplied with *baked apples.* Cooked in this way their preparation for the table gives but little trouble to the housewife, and anything that lessens *her* labor is particularly desirable. For supper we want no better meal than good light bread and rich country milk, accompanied with a plate of good baked apples. And especially for a children's supper, nothing can surpass it. A plenty of stewed tomatoes as an accompaniment for breakfast and dinner is also excellent.—*Ag. Press.*

Hints to Farmers.

Toads are the best protection of cabbage against lice.

Plants, when drooping, are revived by a few grains of camphor.

Pears are generally improved by grafting on the mountain ash.

Sulphur is valuable in preserving grapes, etc., from insects.

Lard never spoils in warm weather, if it is cooked enough in trying out.

In feeding corn, sixty pounds ground go as far as one hundred pounds in the kernel.

Corn meal should never be ground very fine, it injures the richness of it.

Turnips of small size have double the nutritious matter that large ones have.

Rats and other vermin are kept away from grain by sprinkling of garlic when packing the sheaves.

Money expended in drying land, by draining or otherwise, will be returned with ample interest.

To cure scratches on a horse, wash their legs with warm soap suds, and then with beef brine. Two applications will cure the worst case.

Timber, when cut in the spring, and exposed to the weather with the bark on, decays much sooner than if cut in the fall.

Wild onions may be destroyed by cultivating corn, plowing and leaving the corn in the plowed state all winter.—*Ex.*

Tobacco Poison.

The French poet, Santeuill, was killed by a little snuff being thrown into his wine glass at the Prince of Conde's table. Bocarmy, of Belgium, was murdered in two minutes and a half by a little nicotine, or alkali, of tobacco. Dr. Twitchell believes that sudden deaths and tobacco are found together, and he sustains this opinion by an array of facts altogether conclusive. The names of scores of men can be given, who were found dead in their beds, or fell dead in the streets or elsewhere; who had been the victims of this poison.

The Gapes in Chickens.

A correspondent says: "Tell those of your readers who are interested in raising chickens, that a small pinch of gunpowder, given to a chicken with the gapes, will effect a sure and complete cure in from one to three hours time, and leave poor chick healthy and hearty."

Remedy for Diarrhœa.

The following is said to be very efficacious:

Take a handful of strawberry leaves and pour on them half a pint of boiling water; let it remain one hour and drink the tea. If you can not get boiling water, chew and swallow the juice. This is a most valuable and efficient remedy, It rarely fails to give immediate relief, and performs a permanent cure.

Poisoning Mice.

Take one fourth oz. powdered nux vomica: half pint common boiling peas; simmer them with as much water as will prevent their burning, for half an hour, and take them off. When any person sows his peas, let him add one third of the poisoned ones to what he intends to sow, and throw them together in the same drills.—*Horticulturist.*

Defective Religion.

A RELIGION that never suffices to govern a man, will never suffice to save him; that which does not sufficiently distinguish one from a wicked world, will never distinguish him from a perishing world.—*Howe.*

☞ "THE press, the pulpit—and petticoats—the three ruling powers of the day. The first spreads knowledge, the second spreads morals, and the last spreads considerably."

☞ To give brilliancy to the eyes, shut them early at night and open them early in the morning; let the mind be constantly intent on the acquisition of human knowledge, or the exercise of benevolent feelings. This will scarcely ever fail to impart to the eyes an intelligent and amiable expression.

☞ MAN feels yearnings which nothing here can satisfy, entertains hopes which on this side of the grave never can be realized, forms designs which by reason of the shortness of his mortal existence can not be accomplished.

☞ LIFE, properly speaking, is progress, for we commence our pilgrimage here, but only commence it; all nature is in a state of development, and man above all things.

☞ THE hog disease has appeared on the farms near Minerva, Mason county and one in Fleming county. One farmer in the latter lost 300 hogs.

☞ To carry a Collins steamer from New-York to Liverpool requires eight hundred tons of coal, enough to keep an ordinary family forty years.

☞ IN 1745 hoops were worn as large as now, Sir Robert Strange, fleeing from pursuit after the battle of Culloden, was concealed in the crisis of his trouble by a young lady, who offered to shelter him under the ample folds of her petticoat. To this strange proposal, considering all circumstances, it is not strange that he assented, and here he remained undiscovered. Either love or gratitude suggested the sequel, and they were subsequently married,

☞ IT is estimated that the decline of the market values of Railroad Stocks in the last three months, amount to an aggregate of $60,000,000. This immense sum is lost by somebody to be gained by somebody else, for the railroads are worth as much now as three months ago, all for a restless, ambitious, unprincipled spirit, that won't work, and must live out of somebody, no matter who, and grow rich.

☞ A PARTY of ladies, who were proceeding to bathe in a beautiful cove at Geneva, Wis., discovered a young farmer in a thicket watching them, and gave him a sound beating in the hazel-bushes in which he was hid. Served the sneak right.
So says Prentice of the *Louisville Journal*, and who will dispute him?

☞ THE man who thought he could learn to make boots by drinking "sherry cobblers," has just issued a work in which he attempts to prove that by eating *hops* you will acquire a knowledge of waltzing. Queer old customer!

☞ IF we could read the secret history of our enemies we should find in each man's life, sorrow and suffering enough to disarm all our hostility.

☞ IN the affairs of life, activity is to be preferred to dignity; and practical energy and dispatch, to premeditated composure and reserve.

☞ LOUISIANA promises 300,000 hogsheads of sugar against less than one-third of that amount last year; Cuba will come up to the full limit of her past production, if she does not surpass it, under the tumults of the late high prices. Brazil shows no falling off; Mauritius continues the ratio of increasing production that has doubled her crop in seven years, and it is doubtful whether India will not yield as large a supply as ever.

☞ THE hoop question, like most others, has two sides to it. The ladies take the *inside*, and of course we must take the other.

☞ "THE fault, dear Brutus, is not in our stars,
But in ourselves, that we are underlings."

☞ A PRETTY pair of eyes the best mirror to shave by. "Yes," replied a bachelor, on reading the above, "many a man has been shaved by them."

Children's Page.

Well, children, here we are again, at the end of another month. To us it has been a very short one. We hope it has with you.

But with us there is a draw-back—one which you hardly need feel, but which we can not help feeling sensibly—for we have been inquiring, within, what we have done this month, and really we can not make out a very large history of good things done.

Uncle John—you may call us so if you like—is at an age when half a century has gone (how long that seems to you,) and when something is to be done, and done pretty soon, if ever. You are at an age when there is less for you to do, and more to learn. Nevertheless, there is something for you to do, as we will show.

We have much to do; you have much to learn. While we strive *to do something*, you must strive *to become something;* yes, to become something—to be good and useful, and perhaps great. The last is not of much consequence, and then it is pretty sure to come, if you attend to the first two. *To be good* and *to do good*, is the text on which we want to give you a bit of a lay sermon for children.

Like the rest, we must have some divisions. They used to have about thirty long ones. Three short ones are enough for those times; 1, to *be* good; 2, to *do* good; 3, to show that both are about one and the same thing, since persons that are really good are very apt to be showing it by kind and civil actions, and those that are bad generally show it by unkind, uncivil, selfish and dishonest acts.

I. *To be good.*—God is good beyond all others. In order to be good we must be like him. What an idea for children, and yet these children can begin to comprehend it. They understand that "God is love;" that is, that he loves other beings who are capable of happiness and of misery, and that he delights to see all happy. Now you can not be like God in his greatness and his power. The greatest man living can not. But you can cherish a kind, loving disposition, and that is the greatest step which any mortal has ever taken towards being truly good.

Next to God, your parents are your examples. They love you. They wish you to be happy. When they grant your requests, it is because they love and desire your happiness. If they ever deny you, it is because they are unable to grant what you ask, or because they see that it would not really be well for you. That is a beautiful arrangement by which children, while they yet know little of the world and have almost every thing yet to learn, are placed under the direction of others who have been longer in the world, who know more of its dangers, and who have a parent's heart to love and care for them; and if you will strive to be as kind and affectionate to one another and to every body as your mother is to you, you will hardly fail of having an example calculated to advance you in goodness.

Among others whom you know, you will see some who seem to delight in vexing the children, getting away their play-things, disappointing them, making them and every body else unhappy. We suppose you do not like such. Well, then do not be like them. And you will see others who are always saying a kind thing, remembering to bring presents for the children, and seeming to delight in making all around them happy. The more you try to be like these the better.

II. *To do good.*—Here again, God is our first example. You can not be like him to create worlds, to govern them, to make his sun shine, to open the beautiful flowers, to mature the luscious fruits. No, no; nor can all the kings and queens of the earth. But you can make somebody very happy or very unhappy. Think of it.

If you had a large, blushing peach, and should break it open, and give your little sister half, she would be happy. If you had two such peaches, and should insist upon eating both, while your little brother was looking on, he would be unhappy. The veriest child can create happiness, or destroy it. Your father may seem to you a stern man, quite beyond your reach; but we will answer for it, he is happier when you meet him affectionately than when he sees you sour; when he sees you kind and obedient to your mother than when he sees you pouting; when he sees you generous and noble hearted than when he sees you mean and selfish. O, yes! and your mother is happier, and your brothers and sisters, and all about you.

III. When we see persons always saying and doing kind things, striving *to do right* always, and often doing a little more than could be absolutely demanded, we are apt to form a high opinion of them. True, we can not see their heart; but we see the streams that are always flowing from it, and we see that they are good. If we see them saying and doing unkind things, excessively careful not to do more than could absolutely be demanded of them, the inside goodness becomes doubtful, because the streams are not remarkably good, and these are all we can see.

Children, you have but just began life. Take advice of those who have seen the world longer than you have. Your parents are your best friends, your safest advisers. If we tell you any thing different from what they do, believe them, not us. But we rather think they will agree with us, when we tell you that the more you try to *be good* and to *do good*, the more kindness and love you will meet from others, and the happier you will be.

Answer to Questions in Last.

One boy replies that a shower of one inch average would give on an acre 214 tons and 690 lbs. of water; on a square mile, 73,180 tons and 1600 lbs.; on a township of fifty square miles, 3,659,040 tons; on a county forty miles square, 117,089,280 tons; and on a State of 50,000 square miles, enough to fill a canal twenty-five feet wide and four feet deep, for 220,000 miles, long enough to reach about nine times around the globe.

Decision.

"I don't see why you do not like them. They are a good fit, and the best boots we have in the store. Them's a good fit."

The above words were addressed by a storekeeper to a customer, evidently a farmer, who was examining a pair of boots with a view of purchasing, and who, when the clerk had finished his sentence, regarded him sternly for a moment, and then said firmly, "Are you buying those boots, or am I?" "You are, I suppose," said the person addressed, a little nettled. "Well sir," said the farmer, "*I* know what kind of goods I want without any of your assistance. *I* say these boots don't suit me. If you have others show them, and if not I will go where they are to be had, *and I don't think I shall take you along to tell me what I want!*"

There was decision. Some people will go to a shop to purchase goods, and in stead of depending upon their own judgment, allow the seller to force things upon them which they do not want, and frequently become dissatisfied with their purchase before they leave the store. Manifest decision in everything. O. A G.

Take what you Give.

What do we often drop, yet never stoop to pick up? A hint.

Book Notices, etc.

THE ILLUSTRATED FAMILY GYMNASIUM, containing the most improved methods of applying Gymnastic, Calisthenic, Kinesipathic, and Vocal exercises to the development of the Bodily Organs, the Invigoration of their Functions, the Preservation of Health, and the cure of Diseases and Deformities; with numerous illustrations; By R. T. Trall, M.D. Fowler & Wells, publishers, 308 Broadway, New-York. 1857.

What a title page! and yet it describes but what the author has earnestly attempted, and we think has ably accomplished, viz., to furnish an ample range of illustrations for the attainment, by the cheapest and simplest means, within every one's reach, of freedom from deformity, health, strength, agility, beauty, and long life.

We have no more to say of the book. Of its object we would speak in terms to be heard from New-Brunswick to Mexico, if our voice was strong enough to be heard so far. Americans, you are missing it. By spitting life away in chewing, or smoking yourselves to skeletons, or snuffing spoilt tobacco and hurtful aromatics; by absorbing poisoned liquors, instead of stickling for good, or drinking none; by a restless, figitting ambition to be suddenly rich; by your love of votes and a reckless hurry to be shabby politicians, instead of being honest business men; above all by disqualifying yourselves by these and other vices in early life for being the parents of sound, healthy offspring, you are sinning at a rate that none but the thoughtful and far-seeing can realize, against the health of posterity and the future greatness and happiness of our country.

This is a heavy charge, but too many of us deserve it. We are not as conservative of health as we ought to be, and we are far less observant of the influence of our own doings, of our virtues and our vices, upon the destinies of our race, than becomes an intelligent people. That "the iniquities of the fathers are visited upon the children," *physically*, is too evident to doubt. It is written in the Bible; but we need not go to the Bible to learn it. It is extant, patent, wide open every where—is seen wherever the human race is seen. Every man and woman, whose conjugal life is not yet achieved, ought to see it, feel it, and abstain from foolish and hurtful indulgences, from higher considerations than any that affects the welfare of any one being. Young man, let alone that tobacco; throw away your cigar; flee from adulterated liquors—and you can hardly get any other these days—as if all the evil spirits in the universe were after you. The groggery will spoil you, and the greatest fear is, that it will not spoil you soon enough to prevent your leaving a spoilt image of your spoilt self bebind you.

The physical in our being, whether relating to our own health, or the untold evils of a half spoilt parentage on posterity, or the training of children with the first and ever constant care to make them hale, sound men and women, is too much neglected. Encourage in your boys manly exercises. Work them; yes, work them. If you are rich as Cresus, no matter. Give them something, occasionally at least, in the way of employment, that they may have the high enjoyment of feeling that they are useful, helping somebody, doing good. It is the best feeling any mortal ever enjoyed. Why should rich men's sons be deprived of it? And then your daughters—are they up in the early morning? do the garden walks feel their nimble feet? do the roses blush less beautiful by the comparison of lips and cheeks tinted by morning zephyrs; are they helping their mother, when that is needful? are they learning to make hoe-cake and hasty-pudding, supawn, mush, whatever you call it? yes and pound cake, breakfast cake, pies for dinner, poor-man's cake, rich-man's cake, and all the rest? and

more, are they learning the luxury of doing good? When you lay out and adorn your grounds are the wife and daughters out, exercising an exquisite, womanly taste, counting on the effect of that tree you are setting when full grown, seeing how this winding path sorts with that straight fence, and reckoning where luscious fruits may combine utility with beauty. Or if their hands, a little softer perhaps than yours, should seize the proper implement and round off an unseemly prominence, what harm would be done? And where is the old side-saddle that your daughter's grandmother used to ride on? Have the rats eaten it, and have you got no other?

But perhaps we say too much. We would not be always talking in this strain if it were not a matter of prime importance. The fact is, we want that some of the old American blood should survive all the onslaughts of foreigners. But it never will, unless we cherish good habits and educate our children to be hale, stout, physically able men and women. And will this spoil them intellectually? Will it hurt them as ladies and gentlemen? Will it dwarf them morally? Reader, you know better. It does not take a frail helpless thing to make a lady. It does'nt take a weak, shamble-legged thing to make a gentleman. And surely it does not require an imbecile, in body, to make a giant in mind. A sound body is the substratum of all intellectual greatness, not a hindrance, but a help to all that is intellectually and morally great and good.

SORGHO AND IMPHEE, the Chinese and African Sugar Canes By Henry S. Olcott, Esq. A. O. Moore, 140 Fulton street, publisher. New-York. 1857.

This work contains 350 pages, 12mo, and treats of the origin, varieties, and culture of these two plants, which it is hoped will prove of immense value to our country. The prominent topics are, "Their value as a forage crop, the manufacture of sugar, alcohol, syrup, wines, beer, cider, vinegar, starch, and dye stuffs; "with a paper by L. Wray, Esq., of Ceffrasia, and a description of the patented process for crystalizing the juice of the Imphee. It promises a great amount of information, specially valuable at the present time; and from a cursory perusal of the work, but more especially from what we know of the author's zeal and ability, we are sure its promises are well redeemed. The work is published in the best style of the firm whence it emanates, which is saying much for its typography and style of execution. As stated in our last, we will forward this volume, prepaid, on the receipt of the publisher's price, $1.

E. N. WADE'S MUSIC STORE, BOSTON.—We can not forget our old friends in our regard for more recent ones. Wade's music store is one of the best in Boston, and his publications are numerous and valuable. Some of his recent issues of sheet music are very beautiful. The Fisherman's Cottage, by Weiss, words by Longfellow, and in his volume of poems they are thought worthy of a beautiful illustration. "May guardian angels hover o'er thee," is another beautiful ballad, music by Frank Remer. "Soft and gentle twilight," by Lindley, is also beautiful.

WHITE LIES, part 2d, by Charles Reade, published by Ticknor & Fields, is on our table. The plot thickens, and the interest of the story much increased. Four parts complete the story.

United States Agricultural Fair at Louisville, Ky.

MARSHAL P. WILDER, PRESIDENT.

THIS Fair came off on the 1st, 2d, 3d and 4th of September. By the glowing accounts in the papers of Louisville, we are justified in the conclusion that there was a *time*, and a good one too. The weather was most propitious. The heavens smiled, the breezes fanned, and even the hotel-keepers didn't swindle the thousands assembled,

after doing all they could, more than they could comfortably, to provide for them.

As this Fair was held a thousand miles from us just at the time we were going to press with our September issue, we could then publish nothing from it; and now what would have been news at that time, is a month old. We must content our selves, therefore, with barely stating that so far as we can learn, the indications were highly favorable, alike honorable to the society, and encouraging to all who wish for our country a higher agricultural condition.

Men who are doing so much as some of these Ohio, and Kentucky and other Western farmers, for the improvement of horses, horned cattle, sheep and swine, ought to enjoy a wide spread and lasting fame. They are doing what will greatly benefit our generation, and redound to the good of generations to come. Their names ought to be blazoned by the press; their stock should be advertised gratuitously; and we are glad to see that the daily and weekly press has done its duty.

Had our October issue been nearer the time of the show, we would have copied the entire list of premiums awarded, and that with a view to benefit the receivers, both by contributing to a well earned fame, and by making their business known. But at this time it hardly seems worth while to exclude other matter for what the dailies and weeklies have done so well.

Norwich Route—The Commonwealth.

Though we know the high reputation of the boats of the Norwich route, we had never experienced the comfort of a trip in the Commonwealth till within the last month. It is a beautiful as well as an immense structure. Her length is three hundred and eighty feet, and her other dimensions are proportioned, and her frame so firm that she moves through the water with remarkable ease. Her births are admirable, and her state-rooms uncommonly desirable. Her engine is counted as a sixteen hundred horse-power.

Testimonials.

A gentleman of great practical skill in agriculture, and thoroughly versed in those sciences which throw light upon the soil and its cultivation, says:

"In this periodical is found a pleasing variety of matter pertaining both to agriculture and the mechanic arts; a combination of thought and interest that never should, and never can be, with propriety, separated; and while these two are caused to go hand in hand, the great field of science is not left unexplored."

"Among the many periodicals upon the subjects of agriculture, science and art, I consider this among the foremost, and take great pleasure in commending it to favorable notice."—J. Bernard, *Prof. of Mineralogy, Geology, and Botany, in the Ohio Agricultural College.*

This is beyond all comparison the most valuable agricultural work published in the United States. Every farmer who wishes to keep himself properly posted in his profession, will do well to become a subscriber for this important and truly valuable work. —*Geneva (N. Y.) Courier.*

The price of this excellent Farmers' Magazine has been reduced to $2 a year, with no diminution in the quantity or value of its contents. It is, in fact, one of the very best agricultural monthlies published.—*Independent Republican.*

It has the impress of talent, research, and industry on every page, and while it has these, it is courteous and true to sections as well as individuals.—*New-England Farmer.*

This periodical will distance anything in its peculiar province published in America. —*Genesee Argus.*

New-York Markets.

[From the N. Y. Times, Sept. 26.]

The Produce Markets have been very much injured by the pressure for money during the past week. The receipts of the leading articles were on a pretty large scale, and receivers were anxious sellers. These circumstances worked against any prominent improvement. Yet, Breadstuffs were freely dealt in, especially by exporters, whose orders could be executed as prices here fell within their limits. This export movement led to an advance in freights, the shipping accommodation having been inadequate to the requirements of the trade. Towards the close, favorable news was received from Europe, which stimulated the demand for grain for export at rising prices, chiefly for Wheat and Corn. Oats were very freely offered at much reduced quotations, yet they were lightly dealt in. Advices from the principal markets of the interior report heavy arrivals and limited sales of Oats, prices generally leaning in favor of purchasers. Rye and Barley were plentier and cheaper, with a moderate inquiry for each.

THE COTTON CROP.

Cotton has been lightly dealt in throughout the week at nominally unchanged quotations. The reported sales do not exceed a daily average of 500 bales. The export movement from first hands continues. The total exports from this port since the 1st inst. reach 5,368 bales, against 5,639 bales same period last year. Our available stock is now but 6,645 bales, against 25,213 bales this time last year. The receipts at all the shipping ports to latest dates this season, which commenced with the 1st inst., have been 7,324 bales, against 38,961 bales to the corresponding period of last season. The total exports from the United States, so far this season, have been 6,149 bales, against 8,694 bales to the same date last season. The total stock on hand and on shipboard in all the shipping ports at the latest dates was 27,648 bales, against 61,118 bales at the same time last year. The stock in the interior towns at the latest dates was 5,353 bales, against 3,993 bales at the corresponding dates a year ago.

SUNDRIES.

Poultry is active at former prices.

Potatoes—Junes, ₩ bbl.	$2 00	*a*	$2 25	Turnips—Flat, ₩ bbl.	$ 50	*a*	75
Potatoes—Mercer, ₩ bbl.	2 75	*a*	3 25	Pumpkins—Yankee, ₩ 100	4 00	*a*	6 00
Potatoes—Dykeman, ₩ bbl.	2 50	*a*	2 75	Pumpkins—Cheese, ₩ 100	5 00	*a*	6 00
Potatoes—Peach Blow, ₩ bbl.	2 50	*a*	2 75	Squashes—Marrow, ₩ bbl.	1 25	*a*	1 50
Potatoes—Sweet, Va., ₩ bbl.	2 50	*a*	2 75	String Beans—₩ basket	37	*a*	50
Potatoes—Sweet, Delaware, ₩ bbl.	3 00	*a*	3 25	Beans—Lima, ₩ bushel	50	*a*	62
Onions—Rareripes, ₩ 100 strings	3 00	*a*	3 50	Corn—Sweet, ₩ 100	50	*a*	75
Onions—Red, ₩ bbl.	1 35	*a*	1 50	Corn—Common, ₩ 100 ears	50	*a*	70
Onions—White, ₩ bbl.	1 75	*a*	2 00	Cabbages—₩ 100	1 00	*a*	3 50
Onions—Yellow, ₩ bbl.	1 75	*a*	2 00	Cauliflower—₩ doz.	87	*a*	1 00
Beets—₩ 100 bunches	1 00	*a*	2 00	Kohl Rabi—₩ 100 bunches	2 50	*a*	3 00
Carrots—₩ 100 bunches	2 00	*a*	3 00	Egg Plants—₩ doz.	50	*a*	62
Parsnips—₩ doz. bunches	37	*a*	44	Leeks—₩ 100	2 50	*a*	3 00
Blackberries—Lawton, ₩ 100 q. b's	25 00	*a*	—	Okra—₩ 100	20	*a*	25
Whortleberries—₩ bushel	1 50	*a*	2 00	Celery—₩ dox.	75	*a*	1 00
Cranberries—₩ bbl.	8 50	*a*	9 00	Garlic—₩ 100	7 00	*a*	—
Chickory—₩ 100	75	*a*	1 00	Peppers—₩ 100	37	*a*	50
Cucumbers—Pickles, ₩ 1000	2 00	*a*	2 50	Butter—Orange Co., pails, ₩ lb	25	*a*	28
Tomatoes—₩ basket	25	*a*	37	Butter—State, ₩ lb	21	*a*	23
Apples—Common, ₩ bbl.	1 50	*a*	2 00	Ohio and other Western States, ₩ lb.	14	*a*	18
Apples—Table, ₩ bbl.	3 00	*a*	4 00	Lard—In bbls	15½	*a*	16½
Apples—Fall Pippins, ₩ bbl.	3 00	*a*	5 00	Lard—Kegs	16	*a*	16½
Pears—Cooking, ₩ bbl.	2 50	*a*	3 00	Cheese—₩ lb	8	*a*	10
Pears—Seckel, ₩ bbl.	5 00	*a*	8 00	Eggs—Fresh, State, ₩ doz.	15	*a*	—
Pears—Common, ₩ bbl.	1 50	*a*	2 00	Eggs—Western, ₩ doz	16	*a*	12
Pears—Bartlett, ₩ bbl.	12 00	*a*	16 00	Fowls—₩ pair	88	a	1 00
Peaches—Jersey, ₩ basket	1 50	*a*	2 50	Chickens—Roast, ₩ pair	63	a	1 00
Peaches—Delaware, ₩ basket	1 75	*a*	2 25	Chickens—Broilers, @ pair	50	a	63
Peaches—Extra, ₩ basket	2 50	*a*	3 00	Ducks—₩ pair	75	a	1 25
Plums—Damsons, ₩ bushel	3 50	*a*	4 00	Turkeys—₩ lb	20	a	22
Plums—Peach, ₩ bushel	3 00	*a*	—	Turkeys—Spring	88	a	1 25
Plums—Egg, ₩ bushel	4 50	*a*	5 00	Geese—Each	1 00	a	1 50
Grapes—Fox, ₩ lb	6	*a*	7	Pigeons—Squab, ₩ doz.	1 50	a	1 63
Watermelons—Prime Jersey, ₩ 100	15 00	*a*	25 00	Pigeons—Wild, ₩ doz	63	a	75
Watermelons—Common, ₩ 100	2 00	*a*	4 00	Woodcocks—₩ doz.	3 75	a	4 50
Nutmeg Melons—Common, ₩ bbl.	50	*a*	75	Reed Birds—₩ doz.	31	a	88
Nutmeg Melons—Primes	1 25	*a*	1 75	Plover—Grass, ₩ doz.	2 50	a	3 00
Turnips—Rutabagas, ₩ bbl.	1 25	*a*	1 50	Roasting Pigs	1 75	a	2 25

REMARKS ON THE BEEF MARKET.

A cool, comfortable day favored the outdoor transactions of the cattle market, which was much more lively than last Wednesday, although higher prices were only obtained upon the very few droves of good stock. There is always a demand for fine, fat cattle, of moderate size, no matter how abundantly the market is supplied with common and poorer grades. This class was especially in demand to-day. There were quite enough light, thin steers and cows, with a sprinkling of coarse oxen and stags. We call the market ½c.*a*½c. higher on a few of the prime cattle, but no better on the majority of very common stock, a part of which was left over from last week. The numbers at ALLERTON'S were 3,472 for to-day, and 2,722 for the week. Last week the corresponding numbers were 3,239 and 3,464, showing a falling off of about 750 head. The footings give 3,635 as the weekly sales at all the markets, which is more than the general average of last week. Butchers had bought quite freely at Bergen and the city markets, which, with a good supply, laid in last Wednesday, in a measure curtailed their wants to-day, so that the yards were barely cleared at night. About 600 cattle were either purchased at Buffalo and Albany for the Brighton market, or taken there by owners, and some 500 or 600 head were sent into the country from those points as store cattle.

MILCH COWS WITH CALVES.

Milch Cows are sold at each of the above yards, *usually with their calves at their sides*. The prices vary somewhat with the supply and the demand, and vary greatly, of course, upon the milking value. The particular fancy of the buyer has also considerable to do with the price. Not unfrequently a Cow is sold at $90*a*$100 or even $120. The general price throughout the year for ordinary Cows is $30 to $40 or $50. Quite a number sell above $50, and more, perhaps, below thirty. We often see apologies for Cows go at $20*a*$25. The weekly reports from the different yards will give the weekly fluctuations. There is scarcely any variation in prices, or the market generally, since our last report. Quite enough are offering for the present demand, which has increased of late.

VEAL CALVES.

Veal Calves are sold by live weight, each animal being weighed alive at the time of sale. "Bobs," that is, Calves a few days old, are usually sold by the head at such prices as can be agreed upon, sometimes for but little more than the skin is worth. The markets have been well supplied the past week, the receipts being 150 in excess of the preceding week. Prices remain unchanged, with a little more briskness in the market.

SHEEP AND LAMBS.

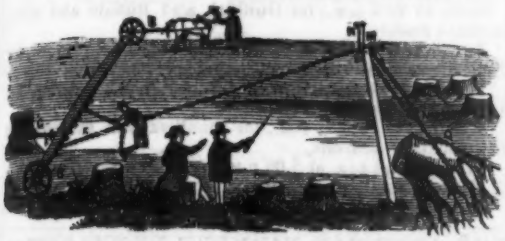
These are chiefly sold at ALLERTON'S, BROWNING'S and CHAMBERLIN'S, at so much per head for a particular lot of Sheep or Lambs, or of the two together. They are also frequently sold by live weight, as this is readily ascertained. The actual prices at the different yards seldom vary greatly. The difference in reputed prices is generally due to variation in the quality. When they are sold by weight, it is usually the *net* weight, which is ordinarily one-half what they weigh when alive, the pelt and offal making the other half. If fat and small-boned, they will dress 55 lbs. and in some cases 60 lbs. per hundred. The average run is about one half of the live weight. A falling off of 1,300 head of live Sheep from last week's footings, is about made up by arrivals of dead Sheep from Albany. Prices are a little firmer, and an advance may be quoted on good stock.

SWINE.

These are sold alive at so much per lb. gross or live weight. Considerable numbers are sold at ALLERTON'S, Forty-fourth street, and at various other yards, while large droves are sold direct from the cars or boats, and driven immediately to the various slaughter-houses. Receipts have been moderate, being about 2,200 from all sources. One lot of fat Hogs, on their way to this market, were wholesaled at Albany, at 7¼c. This is the highest market price to-day.

WILLIS' IMPROVED STUMP MACHINE.

PATENTED MARCH 6, 1855.



Farmers, Mechanics, Road-Builders, Speculators, and all progressive men, your attention is called to this valuable Patent.

My Stump Machine must go before the Mower and Reaper. It has no equal. It is simple in its construction, easily worked, and not liable to get out of repair. Its common weight is about 1500 lbs It is easily borne from place to place, and it can be loaded in three minutes, and unloaded, set up, and a lusty stump drawn, all within fifteen minutes. Once fastened, it will pull an acre and a half of stumps without changing anchorage. A single yoke of cattle, or one strong horse, is sufficient to work it. With such a team, if necessary, a power of from three to five hundred tons can be made to bear upon a single stump!

One man can work it, though two work it at better advantage. The time required to extract stumps from six inches to four feet in diameter will vary from two to ten minutes. With this Machine, standing trees may be taken out, and large rocks removed from their beds; and it is the best Machine ever invented, not only for pulling stumps, but for moving buildings, and other heavy bodies. All the iron used is wrought, of peculiar quality, imported, sustaining 57 tons to the inch!

The price of these Machines varies according to weight and size—the weight of the largest being about 1500 lbs. For the purpose of transportation, it can be boxed up, with the exception of the lever and wheels, in a box ten feet long and about fifteen inches square. I reside at Orange, Massachusetts, where I manufacture this article on a large scale, and hold myself ready to furnish it, or sell rights to use it, in any State or town in the Union, now unsold, on terms most reasonable.

This patent begins to be appreciated. All who wish to bring so good a thing into use, and thereby make a "pile of money," should come to Orange, see the inventor, see the workings of the Machine with their own eyes, and if not perfectly satisfied respecting its merits, all their expenses shall be cheerfully paid.

These Machines, properly boxed for transportation, are sold by Nourse, Mason & Co., Parker, White & Co., and Scudder & Co., of Boston; and by R. L. Allen, 189 Water Street, New-York.

WILLIAM W. WILLIS.

REFERENCES. — Hon. Simon Brown, Editor *New-England Farmer;* J. A. Nash, Editor *Plough, Loom, and Anvil;* and Mr. Moore, Editor *Rural New-Yorker.*

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The steamer BAY STATE, Capt. Jewett, on Mondays, Wednesdays, and Fridays, at 5 o'clock P.M., touching at Newport each way.

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Julytf.

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7 : 30 A.M.—Croton Falls train, stopping at all stations.
*7 : 45 A.M.—Williamsbridge, stopping at all stations.
9 : 30 A.M.—Albany Ex. Mail. all stations above Croton Falls.
*11 : 00 A.M.—Williamsbridge, stopping at all stations.
*11 : 30 A.M.—White Plains, stopping at all stations.
*2 : 30 P.M.—Williamsbridge, stopping at all stations.
3 : 30 P.M.—Millerton, stopping at all stations.
*5 : 00 P.M.—Croton Falls, stopping at all stations.
5 : 30 P.M.—Williamsbridge, stopping at all stations.
6 : 15 P.M.—White Plains, stopping at all stations.
*8 : 00 P.M.—Williamsbridge, stopping at all stations.

The trains marked thus * start fram the Twenty-sixth street Passenger Depot; the others from the Depot corner of White and Center streets.

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DUNKIRK EXPRESS, at 6.00 A.M., for Dunkirk.

BUFFALO EXPRESS, at 6.00 A.M., for Buffalo.

Mail, at 9.00 A.M., for Dunkirk and Buffalo and intermediate stations.

ROCKLAND PASSENGER, at 3.30 P.M., via Piermont, for Sufferns and intermediate stations.

WAY PASSENGER, at 4.00 P.M., for Newburgh, Middletown and intermediate stations.

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april-tf.]

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Mail, for Wheeling, 8.30 A. M.

Accommodation for Fredricksburg, 4 P. M.

Express for Wheeling, 7 P. M.

TRAINS FOR BALTIMORE leave as follows:

Mail leaves Wheeling at 8.30 A. M.

Express leaves Wheeling at 4.40 P. M.

Accommodation leaves Cumberland for Baltimore, at 9 A. M.

Accommodation leaves Frederick for Baltimore, at 9.15 A. M.

WASHINGTON BRANCH.

PASSENGER TRAINS leave Camden Station for Washington, 4.15, 8, and 5.15 P. M.

Leave Washington for Baltimore, at 6 and 8.30 A. M., and 3 and 4.20 P. M.

Tonnage Trains

Leave Baltimore, (Mount Clare Junction) at 4.30 A. M., and Washington at 11.10 A. M.

PHILADELPHIA AND BALTIMORE LINES.

PHILADELPHIA, WILMINGTON AND BALTIMORE RAILROAD. On and after MONDAY, December 1st, 1856, PASSENGER TRAINS LEAVE PHILADELPHIA FOR

Baltimore at 8 A. M., 1 P. M. (Express), and 11 P. M.
Wilmington at 8 A. M., 1, 4.15, and 11 P. M.
New-Castle at 8 A. M., and 1 and 4.15 P. M.
Middletown at 8 A. M., and 4.15 P. M.
Dover at 8 A. M., and 4.15 P. M.
Seaford at 8 A. M., and 3.30 P. M.

TRAINS FOR PHILADELPHIA LEAVE

Baltimore at 8.40 (Express), 11 A. M., and 6.45 P. M.
Wilmington at 7.10 and 11.45 A. M., 2.38 and 10.10, P.M
New-Castle at 7 30 and 11.05 A. M., and 9.20 P. M.
Middletown at 10.00 A. M., and 8.19 P. M.
Dover at 8.50 A. M., and 7.10 P. M.
Seaford at 7 A. M., and 4.10 P. M.

TRAINS FOR BALTIMORE LEAVE

Wilmington at 9.15 A. M., 2 P. M., and 12.17 A. M.

BALTIMORE and HAVRE-DE-GRACE ACCOMMODATION TRAIN LEAVES

Havre-de-Grace at 7.05 P. M.
Baltimore at 4.15 P. M.

FREIGHT TRAINS, WITH PASSENGER CAR ATTACHED, LEAVE

Philadelphia for Perryville and intermediate places at 6.00 P. M.
Wilmington for Perryville and intermediate places at 8.10 P. M.

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Oct. 1st., 1857.—2t.

J. A. NASH,
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Johnson's Elements of Agricultural Chemistry,	1 00
Pardee on the Strawberry,	60
Charlton's Grape-Growers' Guide,	60
Munn's Practical Land Drainer,	50

More next number.

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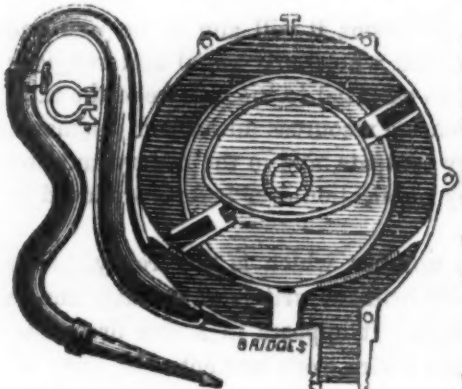
A. W. CARY'S ROTARY FIRE-ENGINE PUMPS.



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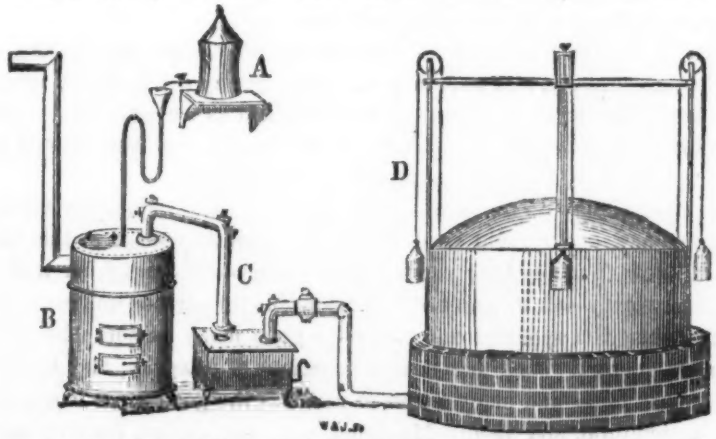

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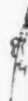
J. A. NASH,
M. P. PARISH.

7 BEEKMAN STREET, NEW-YORK, Sept. 1, 1857.—2t.



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